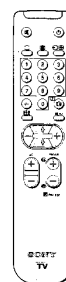
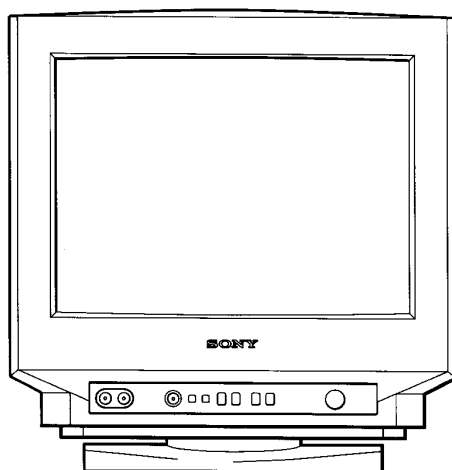


# SERVICE MANUAL

## BE-4 CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-14M1A	RM-836	Italian	SCC-H64G-A	KV-14M1K	RM-836	OIRT	SCC-H52H-A
KV-14T1A	RM-836	Italian	SCC-H64F-A	KV-14T1K	RM-836	OIRT	SCC-H52F-A
KV-14M1B	RM-836	French	SCC-H65F-A	KV-14M1L	RM-836	Irish	SCC-H51D-A
KV-14T1B	RM-836	French	SCC-H65E-A	KV-14T1L	RM-836	Irish	SCC-H51C-A
KV-14M1D	RM-836	AEP	SCC-H46G-A	KV-14T1R	RM-836	OIRT	SCC-H52G-A
KV-14T1D	RM-836	AEP	SCC-H46F-A	KV-14M1U	RM-836	UK	SCC-H50F-A
KV-14M1E	RM-836	Spanish	SCC-H66F-A	KV-14T1U	RM-836	UK	SCC-H50E-A
KV-14T1E	RM-836	Spanish	SCC-H66E-A				



TRINITRON® COLOR TV  
**SONY®**

## KV-14M1/14T1

ITEM	MODEL	Television System	Channel Coverage	Colour System
Italian		B/G/H	VHF: E2-E12, S1-S20, A-H, H1,H2 UHF: E21-E69, S21-S41	PAL
French		B/G/H, L	VHF: E2-E12, S1-S20, F2-F10, B-Q UHF: E21-E69, S21-S41, F21-F69	PAL, SECAM
AEP		B/G/H	VHF: E2-E12, S1-S20 UHF: E21-E69, S21-S41	PAL, SECAM
Spanish		B/G/H	VHF: E2-E12S1-S20 UHF: E21-E69, S21-S41	PAL
OIRT		B/G/H, D/K	B/G/H VHF: E2-E12 UHF: E21-E69 D/K VHF: R01-R12 UHF: R21-R69	PAL, SECAM NTSC3.58/4.43 (video input only)
Irish UK	I		14M1L/14T1L UHF: 21-69 VHF: A-J 14M1U/14T1U UHF: 21-69	PAL

MODEL	14M1A 14T1A	14M1B 14T1B	14M1D 14T1D	14M1E 14T1E	14M1K 14T1K	14M1L/14T1L 14M1U/14T1U	14T1R
Power Consumption	39W	39W	39W	39W	39W	50W	39W

### SPECIFICATIONS

Picture Tube Super Trinitron  
Approx. 37 cm (14 inches)  
(Approx. 34 cm picture measured  
diagonally)  
110° -deflection

#### Rear/Front Terminals

##### [INPUTS]

- 21-pin Euro connector (CENELEC standard)
- Including audio / video input
  - Including RGB input

##### Front connectors

- Video (phono jack)
- Audio (phono jack)

##### [OUTPUTS]

- Headphone jack: minijack
- Sound output 3W (music power)  
2W (RMS)
- Dimensions With tilt-swivel  
373x385x408 mm approx.  
Without tilt-swivel  
373x360x408 mm approx.
- Weight Approx. 10.0 kg
- Supplied accessories RM-836 Remote Commander (1)  
IEC designated batteries (2)  
Tilt-swivel stand (1)  
Antenna (1)

##### Other features

- Teletext/Fasttext (KV-14T1A/14T1B/14T1D/14T1E)
- Teletext (KV-14T1K/14T1L/14T1R/14T1U)


## [RM-836]

Remote control system	Infrared control
Power requirements	3V dc (2 batteries) R6 (size AA)
Dimensions	Approx. 210x45x24 mm (w/h/d)
Weight	Approx. 90g (Not including battery)

Design and specifications are subject to change without notice.

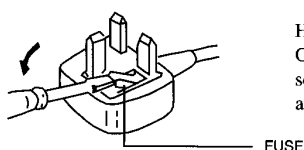
Model name Item	KV-14M1A KV-14T1A	KV-14M1B KV-14T1B	KV-14M1D KV-14T1D	KV-14M1E KV-14T1E	KV-14M1K KV-14T1K	KV-14T1R	KV-14M1L KV-14T1L KV-14M1U KV-14T1U
MPIP	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Scart 1	ON	ON	ON	ON	ON	ON	ON
Scart 2	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Front in (3)	ON	ON	ON	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON	ON	ON	ON
Txt/FLOF	ON (14T1A only)	ON (14T1B only)	ON (14T1D only)	ON (14T1E only)	ON (14T1K only)	ON	ON (14T1L/14T1U only)
TOPTxt	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Norm B/G/H	ON	ON	ON	ON	ON	ON	OFF
Norm I	OFF	OFF	OFF	OFF	OFF	OFF	ON
Norm D/K	OFF	OFF	OFF	OFF	ON	ON	OFF
Norm AUS	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Language Preset	Italian	French	German	Spanish	OIRT	OIRT	English

### WARNING ( KV-14M1L/14T1L/14M1U/14T1U only )

The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** capacity. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by **ASTA** to **BS 1362**, ie one that carries the  mark.

IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR YOUR SOCKET OUTLETS IN YOUR HOME. IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED. THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET OUTLET.

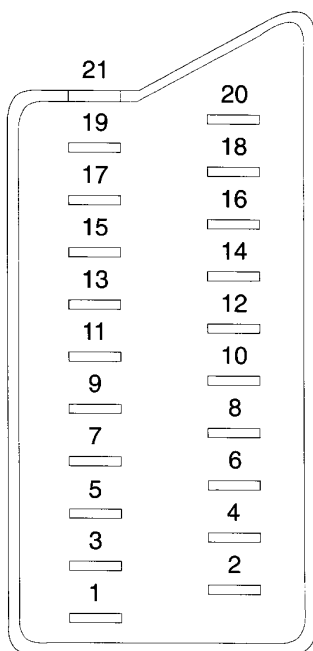
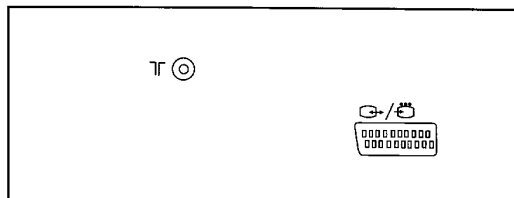
When an alternative type of plug is used it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



How to replace the fuse.  
Open the fuse compartment with the screwdriver blade and replace the fuse.

# KV-14M1/14T1

## 21 pin connector ( → 1 )



Pin No.	1	2	4	Signal	Signal Level
1	○	○	○	Audio output B (Right)	Standard level : 0.5V rms Output impedance : Less than 1k ohms*
2	○	○	○	Audio input B (Right)	Standard level : 0.5V rms Output impedance : More than 10k ohms*
3	○	○	○	Audio output A (Left)	Standard level : 0.5V rms Output impedance : Less than 1k ohm*
4	○	○	○	Ground (Audio)	
5	○	○	○	Ground (Blue)	
6	○	○	○	Audio input A (Left)	Standard level : 0.5V rms Output impedance : Less than 10k ohm*
7	○	●	●	Blue input	0.7 ± 3dB, 75 ohms, positive
8	○	○	○	Function select (AV control)	High state (9.5 - 12V) : Part mode Low state (0 - 2V) : TV mode Input impedance : More10k ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (Green)	
10	○	○	○	Open	
11	○	●	●	Green	
12	○	○	○	Open	
13	○	○	○	Ground (Red)	
14	○	○	○	Ground (Blanking)	
15	○	—	—	Red input	0.7 ± 3dB, 75 ohms, positive
	—	○	○	(S signal) chroma input	0.7 ± 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1 - 3V) Low state (0 - 0.4V) Input impedance : 75 ohms
17	○	○	○	Ground (Video output)	
18	○	○	○	Ground (Video input)	
19	○	○	○	Video output	1V ± 3dB, 75ohms, positive sync : 0.3V (-3 + 10dB)
20	○	—	—	Video input	1V ± 3dB, 75ohms, positive sync : 0.3V (-3 + 10dB)
	—	○	○	Video input Y (S signal)	1V ± 3dB, 75ohms, positive sync : 0.3V (-3 + 10dB)
21	○	○	○	Common ground (plug, shield)	

○ Connected ● Not Connected (Open) \* at 20Hz - 20kHz

Pin No.	Signal	Signal Level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75 ohm, positive Sync. 0.3V -3 + 10dB
4	C (S signal) input	0.3V ± 3dB 75ohm, positive Sync.





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**CAUTION**

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

**WARNING !!**

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.  
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

**SAFETY-RELATED COMPONENT WARNING!!**

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND, IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.


**ATTENTION**

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

**ATTENTION !!**

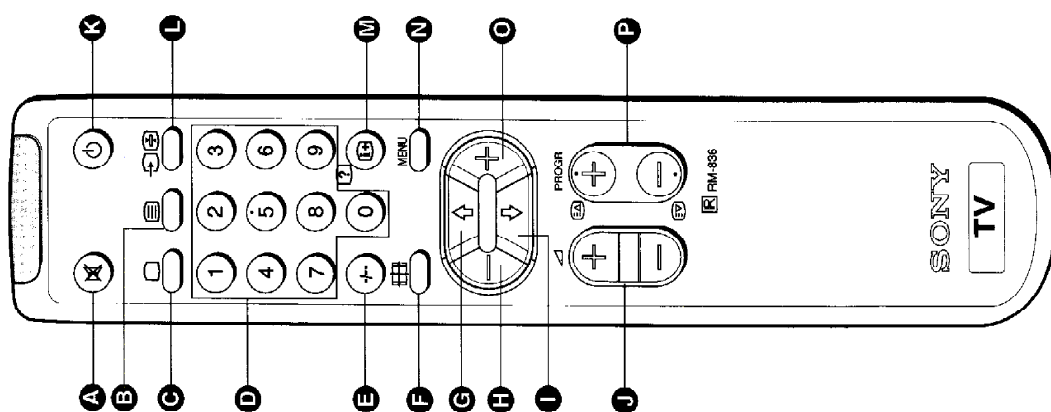
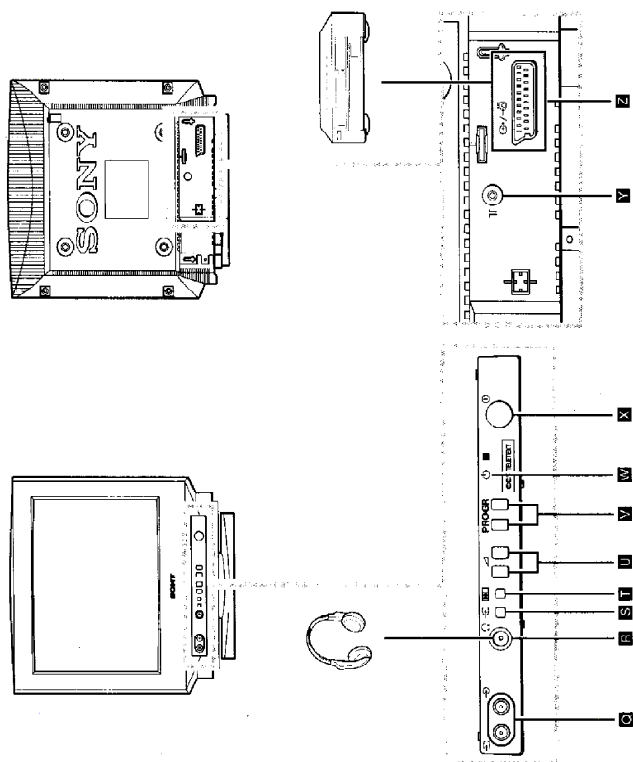
AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

**ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!**

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE  SUR LES VUES EXPLOSÉES ET LES LISTES DE PIÈCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÈCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

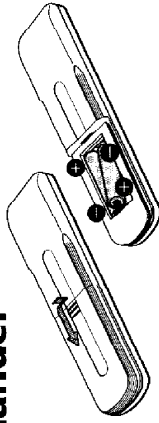
## SECTION 1 GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.



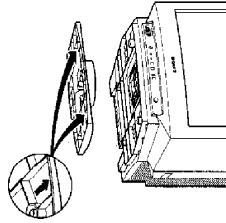
## Step 1

### Inserting the Batteries into the Remote Commander



## Step 2

### Installing the Tilt-Swivel



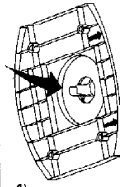
**1** Turn the TV upside down onto a soft base.

**2** Check that the arrows point forward and clip the swivel to the base of the TV.

**3** Turn the TV again.

**4** Use the tilt-swivel to bring the TV into the optimum viewing position.

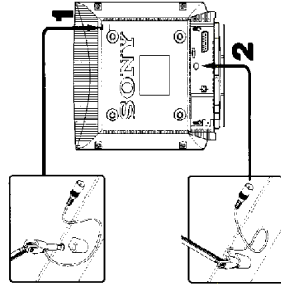
**Note** • To remove the tilt-swivel, check that the arrows are pointing forward, pinch the clip of the swivel and pull away from the base of the TV.



## Step 3

### Connecting the Aerial

If you connect a VCR, skip to step 4.



Connect an external aerial to the socket **1**. Where an external aerial is not available connect the indoor aerial supplied:

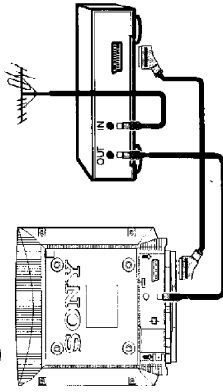
**1** Insert the supplied aerial into the opening on top of the set.

**2** Connect the aerial to the socket **2** on the rear of the set.

**3** Adjust the aerial for optimum reception.

## Step 4

### Connecting a VCR



- It is recommended to tune in the VCR signal to programme number "0". For details, see "Presetting Channels Manually" on page 13.

## Step 5

### Presetting Channels Automatically

TV searches for all available channels. If manual tuning is preferred see Menu option - Presetting Channels Manually.

- Plug into mains.  
Depress power switch **X** on TV set.

- Press and hold **▶▶** **T** on TV set until auto tuning starts and screen shows.



**Note** • When Auto tuning stops the programme on position 1 is seen.

## TV Operation

### TV Operation

This section explains functions used whilst watching TV. Most operations are carried out using the Remote Commander.

To	Press
Switch on	<b>X</b> on TV
Switch off temporarily	<b>J</b> TV is now in standby mode, <b>U</b> indicator <b>W</b> on TV lights.
Switch on again	<b>O</b> , <b>PROGR +/- P V</b> or any number button <b>O</b>
Switch off completely	<b>X</b> on TV To save energy we recommend switching off completely when TV is not in use.
Select programmes	<b>PROGR +/- P V</b> or number buttons <b>O</b> For double digit numbers press <b>- / -</b> <b>O</b> then the number e.g. For 23, press <b>- / -</b> <b>O</b> then 2 and 3.
Display the programme number	<b>D</b> <b>O</b> Press again to make programme number disappear.
Adjust the volume	<b>&lt; + / -</b> <b>O U</b>
Mute the sound	<b>M</b> <b>A</b> Press again to restore sound.
View video input	<b>↺</b> <b>R S</b> Press again to return to TV programme.
View programmes in 16:9 mode	<b>16:9</b> <b>F</b> Press again to return to 4:3 mode.

**Note** • **16:9 F** is to be used to optimise the viewing of 16:9 signals which will be available in the future.

## Viewing Teletext

Teletext is an information service broadcast by TV stations.

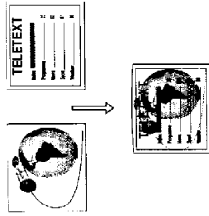
- 1 Select the channel which carries the teletext service you wish to receive.
- 2 Press **[MENU]** to switch on teletext.
- 3 Input three digits for the page number using the programme number buttons **[0-9]** or **PROGR +/-**.
- 4 Press **[OK]** to switch off teletext.

**Note** • Teletext errors may occur if the broadcasting signals are weak.

## Using Other Teletext Functions

### Superimposing teletext on the TV

Press **[TV]** once in teletext mode or twice in TV mode to superimpose teletext on the TV screen.  
Press **[TV]** again to cancel superimposing.



### Freezing a teletext subpage

Press **[F]** (HOLD) to freeze the subpage. Freezing the page prevents the information that is displayed from being updated.  
Press **[F]** to cancel HOLD and allow update to continue.

### Revealing concealed information (eg: answers to a quiz)

Press **[R]** to reveal information.  
Press again to conceal the information.

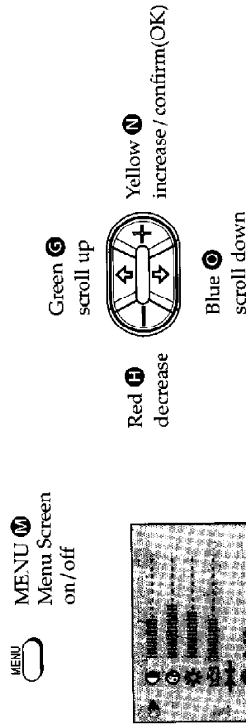
### Using colour buttons to access pages

When the colour coded menu appears at the bottom of a page, press the colour button (red, green, blue or yellow) **[R/G/B/Y]** to access the corresponding page.

**Note** • A programme status message in a blue box may appear when you change programmes (depends on broadcasters).

## MENU Operation

Use buttons on Remote Commander to control Menu screen.



## Adjusting the Picture

- 1 Press MENU **[M]**.
- 2 Press green **[G]** or blue **[B]** button to select the item you wish to change.

Symbol	Item	-	Effect	+
	Picture	Less	More	
	Colour	Less	More	
	Brightness	Darker	Brighter	
	Hue	Reddish	Greenish	









**Note** • Hue is available only when NTSC signal is input.

- 3 Press red **[R]** or yellow **[Y]** button to change levels.
- 4 Press MENU **[M]** to return to normal TV screen.

**Note** • To reset to factory preset picture levels, press green **[G]** or blue **[B]** button to select **[<>]** and press yellow (OK) **[Y]** button.

## Using the Sleep Timer























The TV may be set to switch to the standby mode automatically after a length of time chosen by you. You may set the time in 30 minutes steps up to 4 hours.

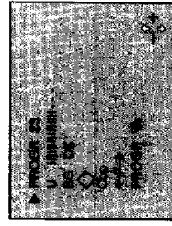
- 1 Press MENU .
- 2 Press green  or blue  button to select .
- 3 Press red  or yellow  button to set time delay.  
0.00 (OFF) 0.30 1.00 1.30 .... 4.00
- 4 Press MENU  to return to normal TV screen.  
When watching TV, press  to display time remaining.



## Presetting Channels Manually

Up to 60 programme positions are available for presetting channels.

- 1 Press MENU .
- 2 Press green  or blue  button to select  and press yellow (OK)  button.
- 3 Select programme number using PROG+/-  or the number buttons .
- 4 Press green  or blue  button to select TV system (BG or DK) if necessary and press red  or yellow  button to change TV system.
- 5 Press green  or blue  button to select tuning bar (|||||....) and press red  or yellow  button to start channel search. When a channel is found the tuning bar stops moving and you see the picture.
- 6 If you want to store, press green  or blue  button to select  and press yellow (OK)  button. If you do not want to store, press red  or yellow  button to continue search.
- 7 Repeat steps 3 to 6 for all other channels.
- 8 Press MENU  to return to normal TV screen.

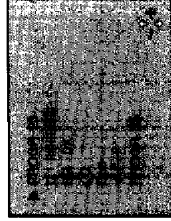


## Skipping Programme Positions

You can skip unused programme positions when selecting channels with the **PROGR +/-** buttons. You can still select them, however, using the number buttons **0-9**.

- 1 Press **MENU** **M**.
- 2 Press green **G** or blue **B** button to select  $\diamond$  and press yellow (OK) **N** button.

- 3 Select programme number you want to skip using **PROGR +/-** **P** **V** button or number buttons **0-9**.



- 4 Press green **G** or blue **B** button to select **Co** and press yellow (OK) **N** button.

- 5 Press green **G** or blue **B** button to select  $\diamond$  and press yellow (OK) **N** button to store.

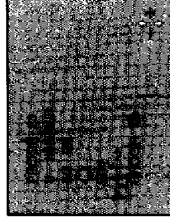
- 6 Repeat steps 3 to 5 for other unused programme positions.

- 7 Press **MENU** **M** to return to normal TV screen.

## Fine-Tuning Channels

You can fine tune a stored channel if necessary.

- 1 Select the channel you wish to fine tune.
- 2 Press **MENU** **M**.
- 3 Press green **G** or blue **B** button to select  $\diamond$  and press yellow (OK) **N** button.
- 4 Press green **G** or blue **B** button to select  $\leftrightarrow$  **F**  $\rightarrow$  and use red **H** or yellow **N** button to adjust tuning.





















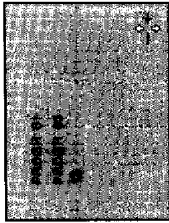
- 5 Press green **G** or blue **B** button to select  $\diamond$  and press yellow (OK) **N** button to store.

- 6 Press **MENU** **M** to return to normal TV screen.





## Exchanging Programme Positions






After tuning you may wish to rearrange the programme positions.

- 1 Press MENU .
- 2 Press green  or blue  button to select  and press yellow (OK)  button.
- 3 Press green  or blue  button to select PROGR  and press yellow (OK)  button.
- 4 Press red  or yellow  button to select the first programme position.
- 5 Press the blue  button.
- 6 Press the red  or yellow  button to select the second programme position.
- 7 Press blue  button to select  and press yellow (OK)  button to exchange.
- 8 Repeat steps 4 to 7 for other programme positions.
- 9 Press MENU  to return to normal TV screen.



## Using the Connectors

Your TV has one 21-pin connector  on the rear of the set and two connectors (phono jacks  video,  audio)  on the front of the set. You can connect optional audio or video equipment to these connectors, such as a VCR, video games or a video disc player.

- 1 Press   to view the video input signal.
- 2 Press   or  to return to the normal TV screen.

**Note** • To avoid picture distortion, do not use the 21-pin connector and the front connectors at the same time.

## Connecting Headphones

Plug in the headphones to the  socket on the front of the TV set, to mute the sound from the speaker.



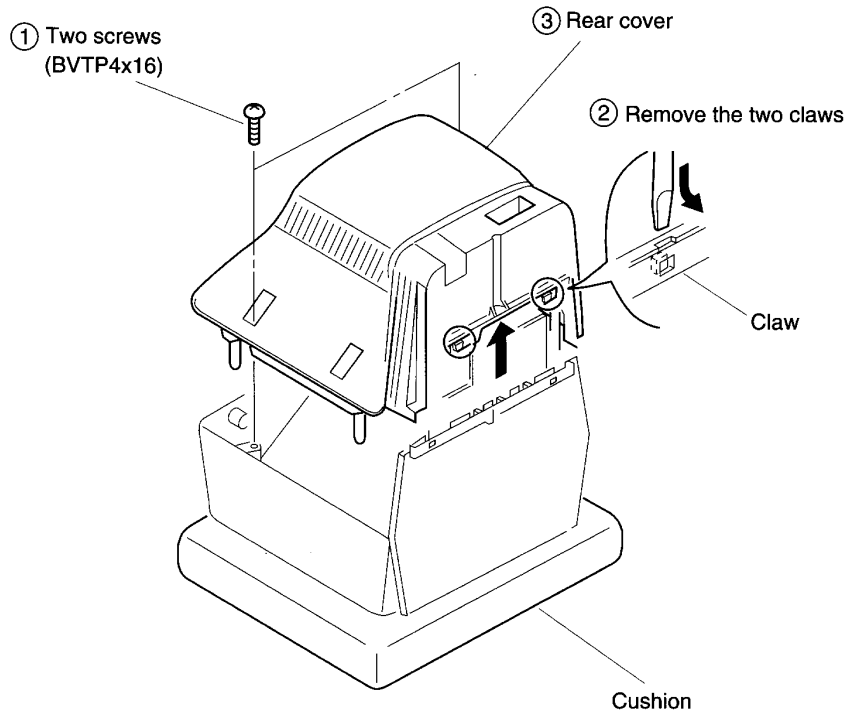
## Troubleshooting

Here are some simple solutions to the problems which affect the picture and sound.

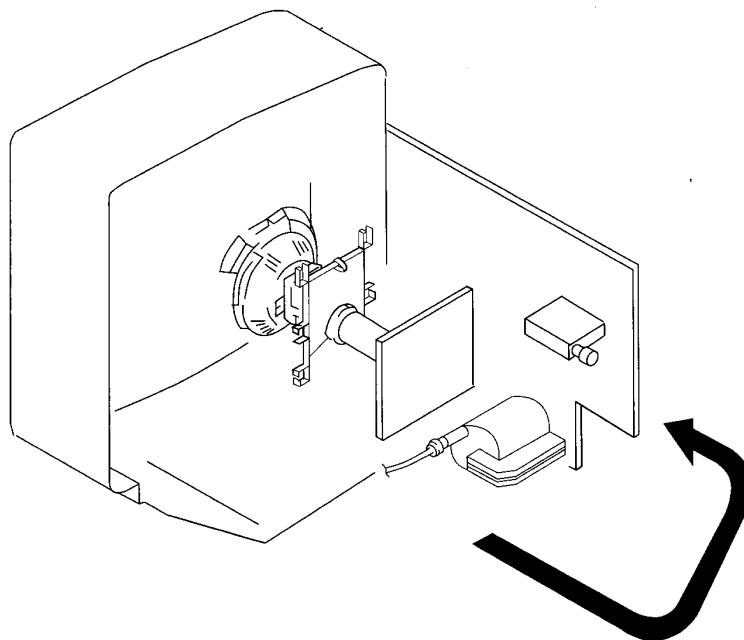
Problem	Solution
No picture, screen is dark, no sound	<ul style="list-style-type: none"> <li>• Plug the TV in.</li> <li>• Press <b>⏻</b> on the TV.</li> <li>• Press <b>⏻</b> or the programme number <b>0</b> on the remote commander if <b>⏻</b> indicator <b>W</b> is on.</li> <li>• Check the aerial connection.</li> <li>• Check that the video source is on.</li> <li>• Turn the TV off for 3 or 4 seconds and then turn it on again using <b>⏻</b>.</li> </ul>
Poor or no picture (screen is dark, sound is good)	<ul style="list-style-type: none"> <li>• Press MENU <b>M</b> and adjust brightness picture and colour levels.</li> </ul>
Good picture, no sound	<ul style="list-style-type: none"> <li>• Adjust the volume <b>⏮</b> +/- <b>⏭</b>.</li> <li>• Disconnect any headphones.</li> <li>• Press <b>⏮</b> if <b>⏮</b> is displayed on the screen.</li> <li>• Press MENU <b>M</b> and select appropriate TV system.</li> </ul>
No colour on colour programmes	<ul style="list-style-type: none"> <li>• Press MENU <b>M</b> and adjust colour balance.</li> <li>• Press MENU <b>M</b> and reset to factory settings</li> </ul>
Distorted picture when you change programmes or select teletext	<ul style="list-style-type: none"> <li>• Turn off the equipment connected to the 21-pin connector <b>Z</b></li> </ul>
Partially discoloured picture when you swivel the TV	<ul style="list-style-type: none"> <li>• Turn off the TV for fifteen minutes using the power switch <b>⏻</b> on TV set then turn on again.</li> </ul>
Remote commander does not function	<ul style="list-style-type: none"> <li>• Replace the batteries</li> </ul>
<ul style="list-style-type: none"> <li>• <b>If you continue to have these problems, have your TV serviced by qualified personnel.</b></li> <li>• <b>NEVER open the casing yourself.</b></li> </ul>	

## SECTION 2 DISASSEMBLY

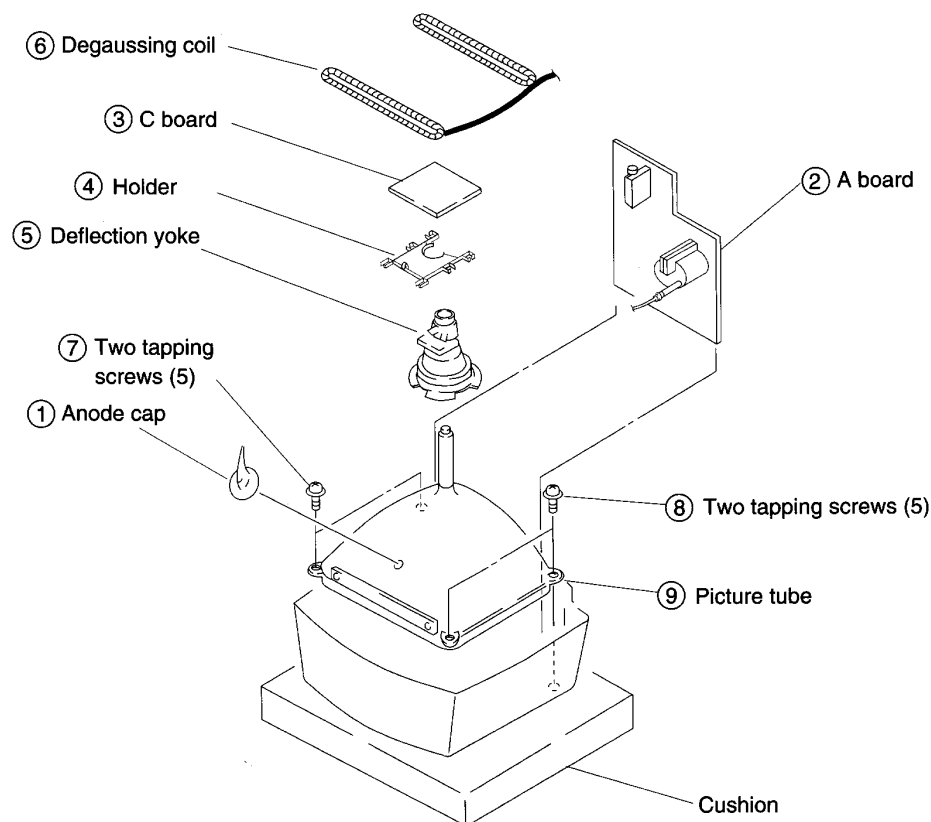
### 2-1. REAR COVER REMOVAL



### 2-2. SERVICE POSITION



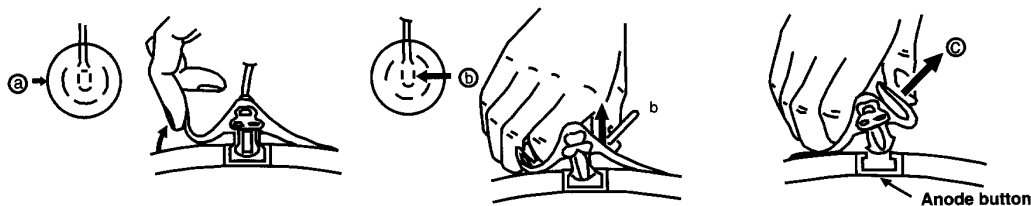
## 2-3. PICTURE TUBE REMOVAL



### • REMOVAL OF ANODE-CAP

**Note:** Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

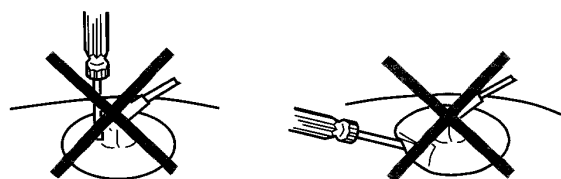
#### \* REMOVING PROCEDURES.



- ① Turn up one side of the rubber cap in the direction indicated by the arrow ①a
- ② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ①b
- ③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ①c

#### • HOW TO HANDLE AN ANODE-CAP

- ① Don't damage the surface of anode-cap with sharp shaped material !
- ② Don't press the rubber hardly not to hurt inside of anode-caps !  
A metal fitting called as shatter-hook terminal is built into the rubber.
- ③ Don't turn the foot of rubber over hardly !  
The shatter-hook terminal will stick out or damage the rubber.



## SECTION 3

### SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with the rated power supply voltage, unless otherwise noted.

The Contrast and Brightness controls should be set as follows unless otherwise noted:

● CONTRAST control ..... 80%  
 (or Normal by commander)  
 ☀ BRIGHTNESS control ..... 50%

Perform the adjustments in the following order:

1. Beam Landing
2. Convergence
3. Screen (G2), Drive, White Balance, Sub Color and Sub Brightness.
4. Focus

**Note:** Test Equipment Required.

1. Color bar/Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

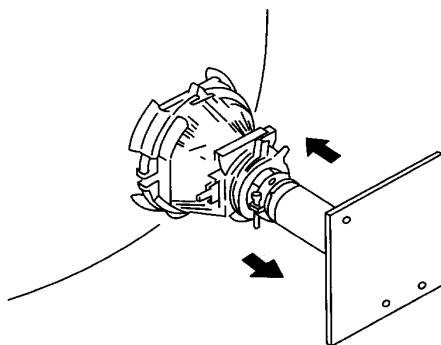
**Preparation:**

- In order to reduce the influence of external magnetic forces on the picture tube, face the TV set in an easterly or westerly direction.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser.

### 3-1. BEAM LANDING

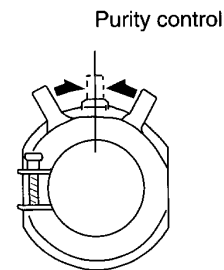
Demagnetize with a degausser.

1. Input an all white raster signal from the pattern generator.  
CONTRAST } normal  
BRIGHTNESS }
2. Switch the raster signal of the pattern generator to Red.
3. Move the deflection yoke backward, and adjust with the purity control so that Red is at the center and the Blue and Green are evenly spaced at the sides. see (Fig. 3-1 - 3-3)
4. Move the deflection yoke forward, and adjust so that the entire screen becomes Red. (Fig. 3-1)
5. Switch the raster signal to Blue and then Green to confirm the condition.
6. When the position of the deflection yoke has been determined, tighten it with the deflection yoke mounting screw.
7. When the landing at the corners is not correct, adjust by using disk magnets. (Fig. 3-4)

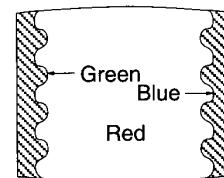


**Fig. 3-1**

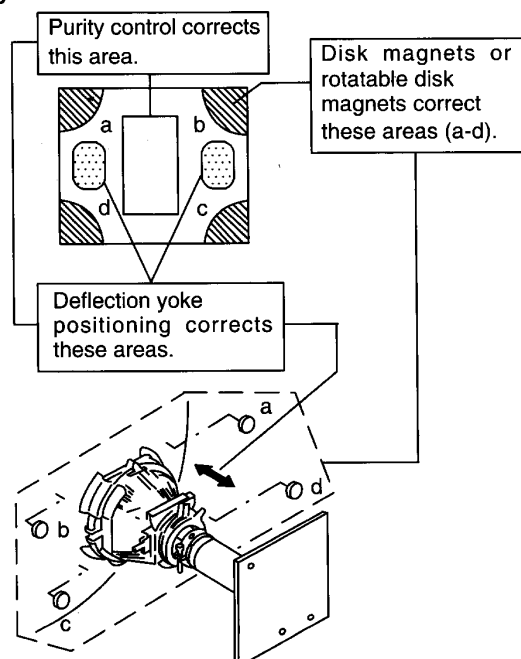
**Fig. 3-2**



**Fig. 3-3**



**Fig. 3-4**

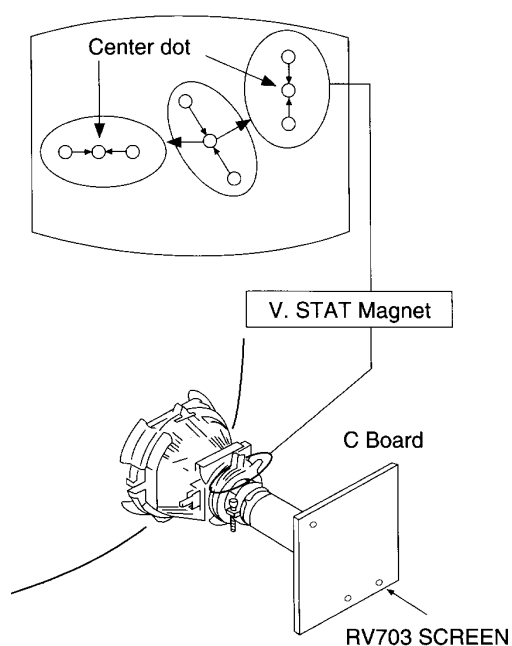


### 3-2. CONVERGENCE

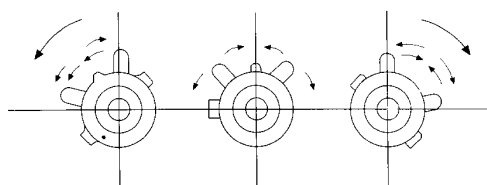
#### Preparation:

- Before starting, perform FOCUS, H.SIZE, and V.SIZE adjustments.
- Set the BRIGHTNESS control to minimum.
- Input a dot pattern from the pattern generator.

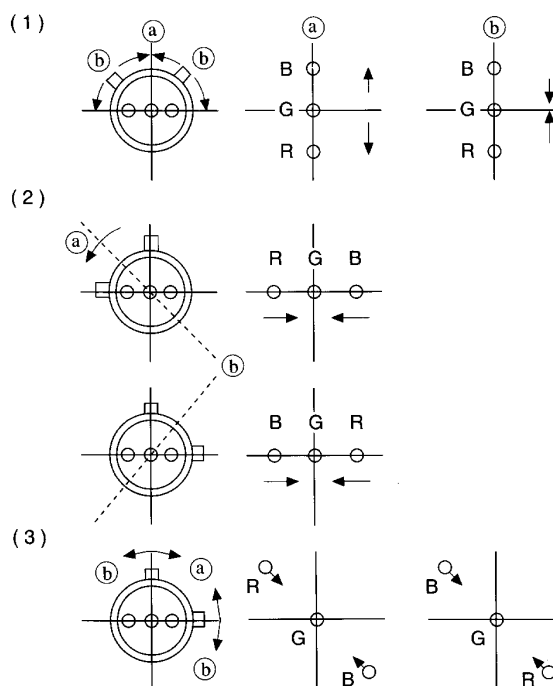
#### (1) Horizontal and Vertical Static Convergence



1. Adjust the V. STAT magnet to converge the Red, Green and Blue dots at the center of the screen. (Vertical and Horizontal movement)
- Tilt the V. STAT magnet and adjust the static convergence by opening or closing the V. STAT magnet.



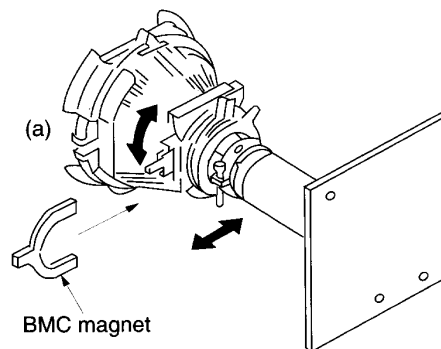
2. When the V. STAT magnet is moved in the direction of the (a) and (b) arrows, the Red, Green and Blue dots move as shown below.



If the Red and Blue dots do not converge with the Green dots, perform the following steps.

1. Move the BMC magnet (a) to correct for insufficient H.static convergence.
2. Rotate the BMC magnet (b) to correct for insufficient V.static convergence.

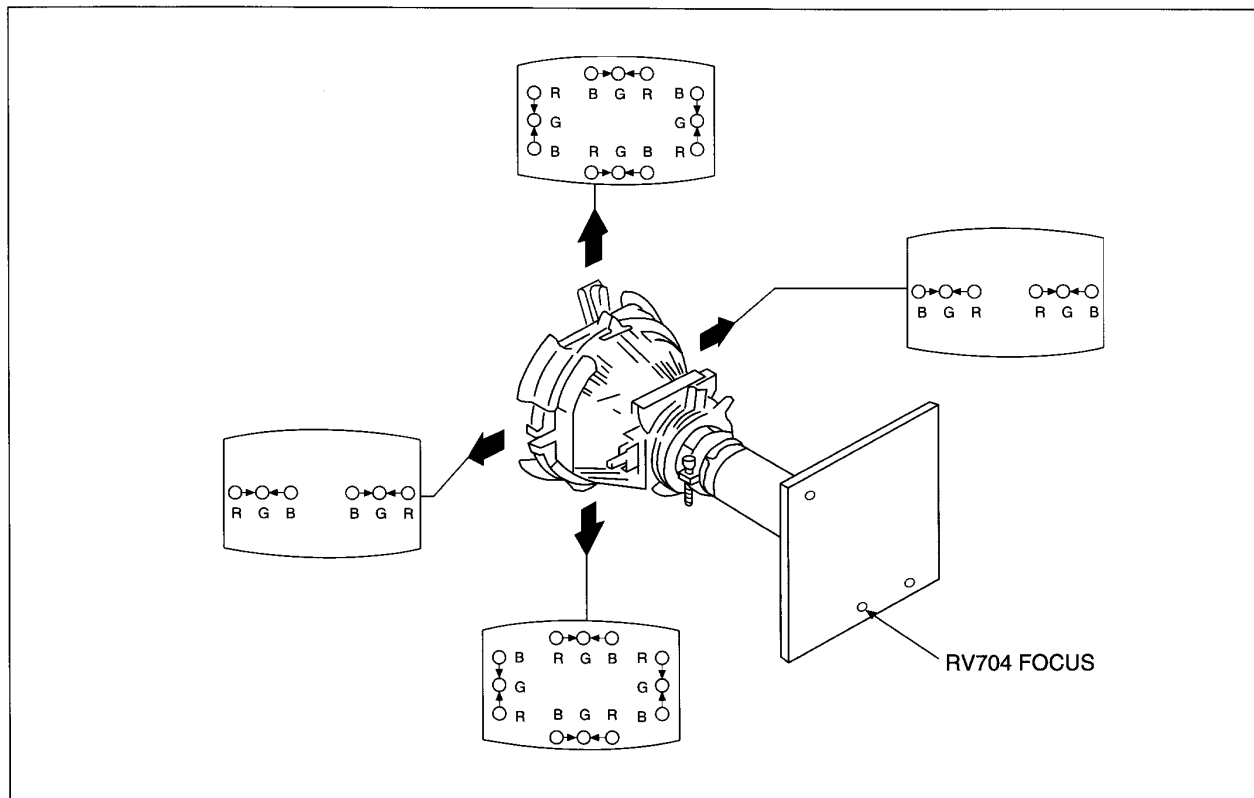
In either case, repeat the Beam Landing Adjustment.



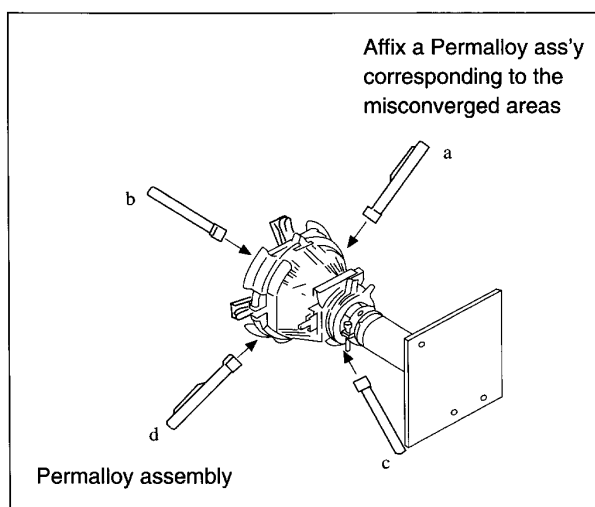
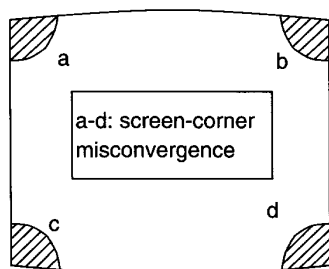
## (2) Dynamic Convergence Adjustment

### Preparation:

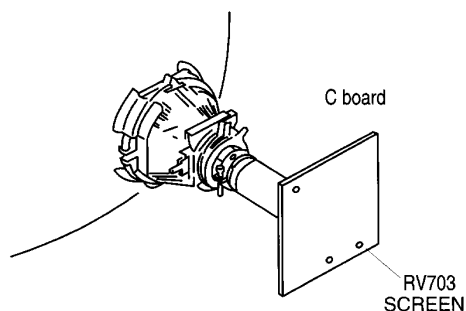
- Before starting to perform the Horizontal and Vertical static convergence adjustment.
1. Slightly loosen the deflection yoke screw.
  2. Remove the deflection yoke spacers.
  3. Move the deflection yoke for best convergence as shown below.
  4. Tighten the deflection yoke screw.
  5. Install the deflection yoke spacers.



## (3) Screen-corner Convergence.



### 3-3. SCREEN (G2), DRIVE, WHITE BALANCE, SUB COLOR and SUB BRIGHTNESS.

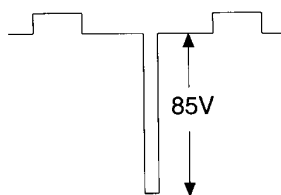


#### Screen (G2) setting

1. Input a 0 IRE (Black Level) signal from the pattern generator.
2. Enter into the Service Mode "Test""Test" and 38.
3. Adjust RV703 until the Down arrow is displayed.
4. Adjust RV703 until the Down arrow just disappears.
5. Press the TV Button on the Remote Commander to store the data.

#### Drive Level

1. Input a Video signal containing a small area of 100% white on a black background.
2. Connect an oscilloscope to Pin ⑦ of J701 (R OUT) on the C Board.
3. Set the Picture to maximum using "Test""Test" and 01.
4. Enter into the Service mode (Adjust Menu).
5. Using the Blue and Green buttons select "RED HWB".
6. Using the Red and Yellow buttons on the Remote Commander adjust until the oscilloscope waveform has an amplitude of 85V.

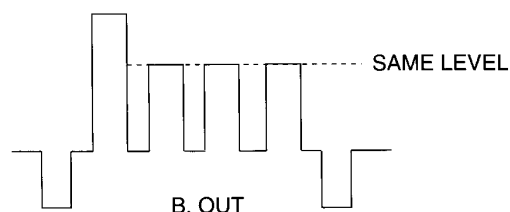


#### White Balance Adjustment

1. Input an all white pattern from the pattern generator.
2. Adjust the Color and Brightness controls to the standard level.
3. Enter into the Service Mode.
4. Adjust the Green HWB and Blue HWB so that the White Balance becomes optimum.

#### Sub Color Adjustment

1. Input a PAL color bar pattern from the pattern generator.
2. Connect an oscilloscope to Pin ⑤ of J701 (B OUT) on the C Board.
3. Enter into the Service Mode "Test""Test" and 22.
4. Using the Red and Yellow buttons on the Remote Commander adjust until the oscilloscope waveform becomes as follows :



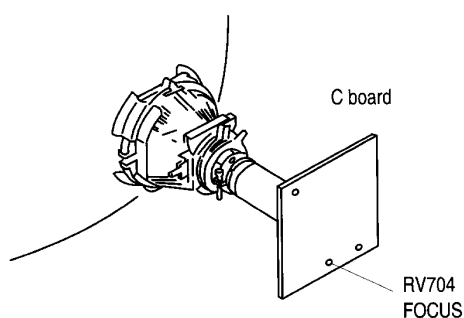
**Note :** If the TV is able to receive PAL and SECAM transmissions, repeat the above procedure using a Secam color bar signal.

#### Sub Brightness Adjustment

1. Input a Philips pattern from the pattern generator.
2. Enter into the Service Mode "Test""Test" and 23.
3. Using the Red and Yellow buttons on the Remote Commander adjust until the 0 IRE of the grey scale and the cut off are only slightly visible on the screen.

### 3-4. FOCUS

Adjust the FOCUS control RV704 so that the whole screen is in best focus.



## SECTION 4

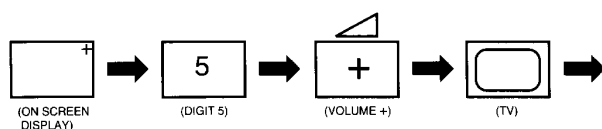
### CIRCUIT ADJUSTMENTS

#### 4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied Remote Control Commander RM-836.

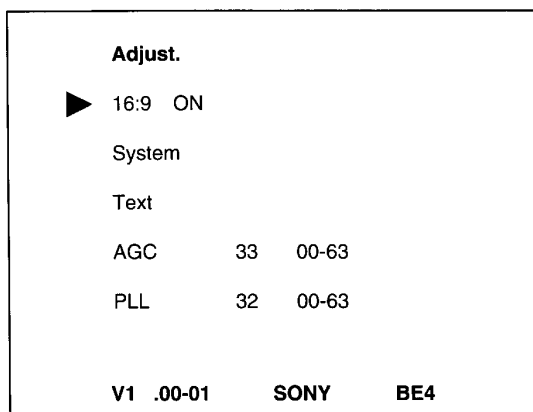
##### HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power of the set and enter into stand-by mode.
2. Press the following sequence of buttons on the Remote Control Commander.



"TT--" will appear in the top right corner of the screen. Other status information will also be displayed.

3. Press the MENU button on the Remote Commander to obtain the menu on the screen.



Software version

Range of adjustments available from the on screen menu system.

Adjustment	Set	Range
16:9 Off	Select	ON/OFF
System	Select	BG-L, BG-DK UK, Eire, BG
Text	Select	EAST/WEST
AGC	Adj.	00 - 63
PLL	Adj.	00 - 63
B&W Delay	Adj.	00 - 63
Ver Size	Adj.	00 - 63
Ver, Breath	00	00 - 63
Par, Ampl	00	00 - 63
Par, Tilt	32	00 - 63
V, Linear	Adj.	00 - 63
Corn, corr	00	00 - 63
V, Cen or EW	Adj.	00 - 63
V, Position	42	00 - 63
H, Centre	Adj.	00 - 63
Blue HWB	Adj.	00 - 63
Green HWB	Adj.	00 - 63
Red HWB	Adj.	00 - 63

4. Press the Blue (Next) or Green (previous) buttons to select the adjustment item from the table.
5. Press the Yellow (+) or Red (-) buttons to change the data as required.
6. Turn off the power to quit the service mode when adjustments are completed.



## 4-2. TEST MODE 2:

TT -- Mode is available by pressing the Test button twice, O.S.D 'TT --' appears. The functions described below are available by pressing two digits. To release the 'TT --' mode, press 0 twice, press 'TEST' , press 'TV' or switch the TV into Stand-by mode.

00	Switch 'TT--' Mode off.
01	Set picture level to maximum.
02	Set picture level to minimum.
03	Set volume to 35%.
04	Set volume to 50%.
05	Set volume to 65%.
06	Set volume to 80%.
07	Ageing condition (picture max., brightness max.).
08	Shipping condition (Analog values are RESET to factory setting, Prog 1 is selected, TT--mode switched off, Vol = 35%).
09	Dummy.
10	No function.
11	Dummy
12	Text Picture Level Offset (Enable/Disable)
13	Select Odd / Even field for Non-interlaced teletext.
14	Select Interlaced / Non-interlaced teletext display.
15	Read factory setting from ROM to NVM - Reads Volume, Brightness, Picture, Hue, Sharpness and Colour values from ROM to the actual used values (Last Power Memory).
16	No function
17	Enable / Disable Sharpness Operation.
18	Enable / Disable Teletext Operation.
19	Enable / Disable NTSC Operation.
20	No function.
21	Sub Picture.
22	Sub Colour (Pal / Secam Different Stores)
23	Sub Brightness.
24	Destination System BG/L.

25	Destination Systems BG/L.
26	Destination Systems I.
27	Destination System I/I'.
28	Destination BG only.
29	Dummy.
30	No function.
31-32	Dummy.
33	Auto AGC Adjust.
34	Auto PLL Adjust.
35-37	Dummy.
38	Enter G2 adjustment mode.
39	Dummy.
40	No function.
41	Re-initialise NVM.
42	Dummy.
43	Re-initialise Geometry settings.
44-47	Dummy
48	Set NVM testbyte to 44h in NVM.
49	Erase NVM testbyte
50	No function.

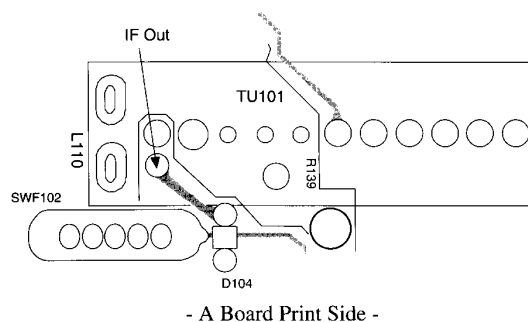
**Note :** For Test Modes 41 - 50, it is necessary to ensure that the TV is set to Prog 59.

**IF ADJUSTMENT (AUTOMATIC)**

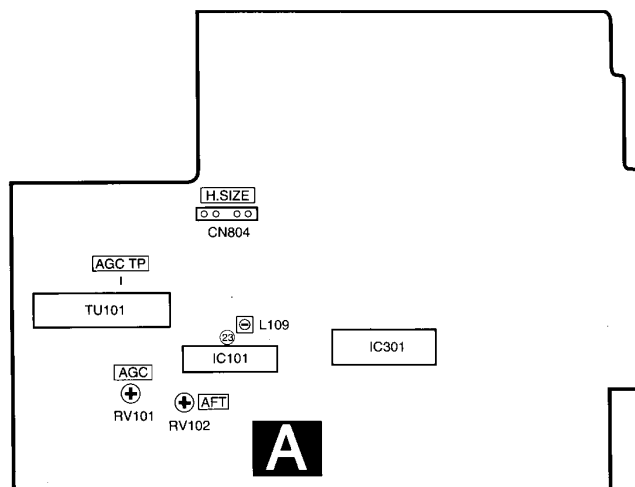
1. Input a 38.9 MHz 100dB $\mu$  CW signal at the IF Out injection point.
2. Enter into service mode and press 34.
3. Connect a digital voltmeter to IC101 pin (23).
4. Check AFT 2.5V  $\pm$ 0.3V dc.
5. Press '00' on the Remote Commander.

**SYSTEM L ADJUSTMENT ( French Models)**

1. Input a 33.9MHz 100dB $\mu$  CW signal at the IF Out injection point.
2. From the On Screen Menu set System to L band 1.
3. Connect a digital voltmeter to IC101 pin (23).
4. Adjust RV102 AFT for 2.5V  $\pm$ 0.3V dc.

**AGC ADJUSTMENT**

1. Receive an off-air signal.
2. Enter into the Service adjust menu and select AGC.
3. Adjust the data using the Red and Yellow buttons on the Remote Commander so that there is no snow or cross - modulation visible on the screen.
4. Change the receiving off-air channel, and confirm the above status.

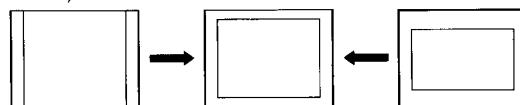
**DEFLECTION SYSTEM ADJUSTMENT**

1. Enter into the service mode.
2. Using the Blue or Green buttons select the Adjust item.
3. Press the Yellow button to enter the adjustment submenu.
4. Select and adjust each item in order to obtain the optimum image.

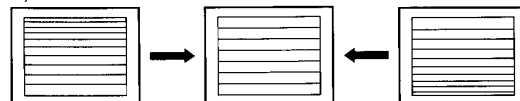
See Note on page 23

Adjustment	Set	Range
VERT, AMPL	Adj.	00 - 63
VER, BREATH	00	00 - 63
PAR, AMPL	00	00 - 63
PAR, TILT	32	00 - 63
V, LINEAR	Adj.	00 - 63
CORN, CORR	Adj.	00 - 63
V, CENTRE	Adj.	00 - 63
V, POSITION	42	00 - 63
H, CENTRE	Adj.	00 - 63

VERT, AMPL



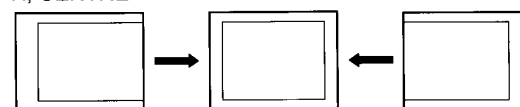
V, LINEAR



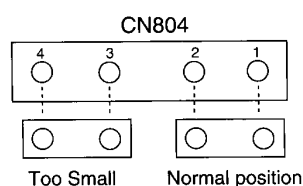
V, CENTRE



H, CENTRE



H, SIZE



Fit the link as required to obtain the correct horizontal picture size. Remove the link if the H, SIZE is to large.

### 4-3. BE-4 SELF DIAGNOSTIC SOFTWARE

The identification of errors within the BE-4 chassis is triggered in 1 of 2 ways :- 1: Bus busy or 2: Device failure to respond to I<sup>2</sup>C. In the event of one of these situations arising the software will first try to release the Bus if busy (Failure to do so will report with a continuous flashing LED) and then communicate with each relevant device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the LED by a Series of flashes which must be counted (See Table 1)., on fatal errors are reported with this method.

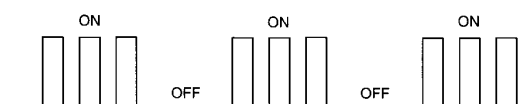
If a fatal error is found, the set will simply stay in whichever state it was when the error occurred, but if a non fatal error occurs the set will try to continue to operate.

**Table 1**

No of Flashes	Meaning
2	IC301 not acknowledging I <sup>2</sup> C transmission, NVM OK.
3	IC301 FAULT (Not OK) - flags
4	IC301 - No H Flyback
5	IC301 - Stack Overflow.
6	Overvoltage / Overcurrent Protection (Pin 52) high.
7	IC002 not acknowledging I <sup>2</sup> C transmission, IC301 OK.
8	IC002 and IC301 - No I <sup>2</sup> C acknowledgment.
9	General I <sup>2</sup> C Error (SDA or SCL being held low) (IC301, IC001, IC002, CN001)

Flash Timing Example : e.g. error number 3

Stby LED

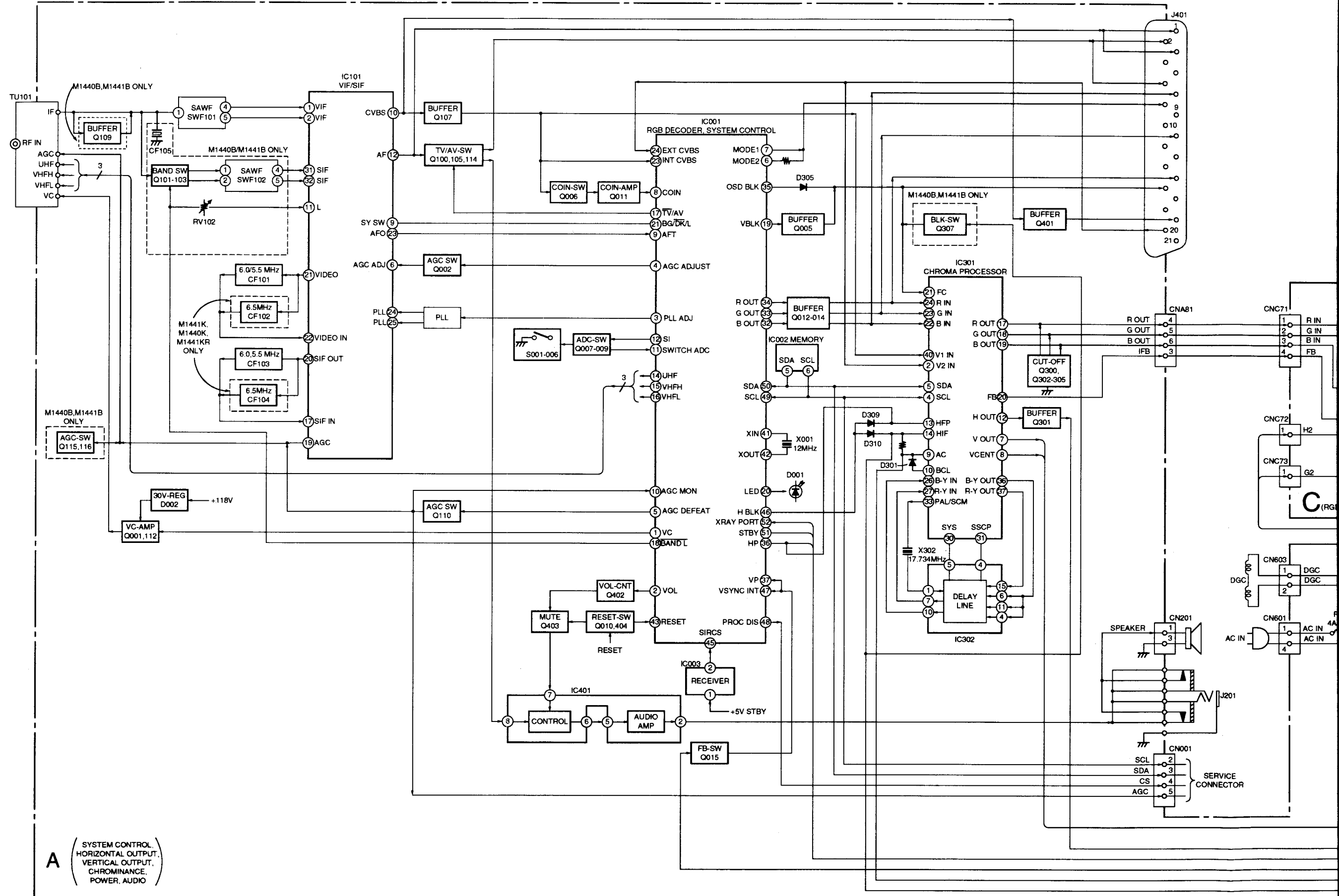


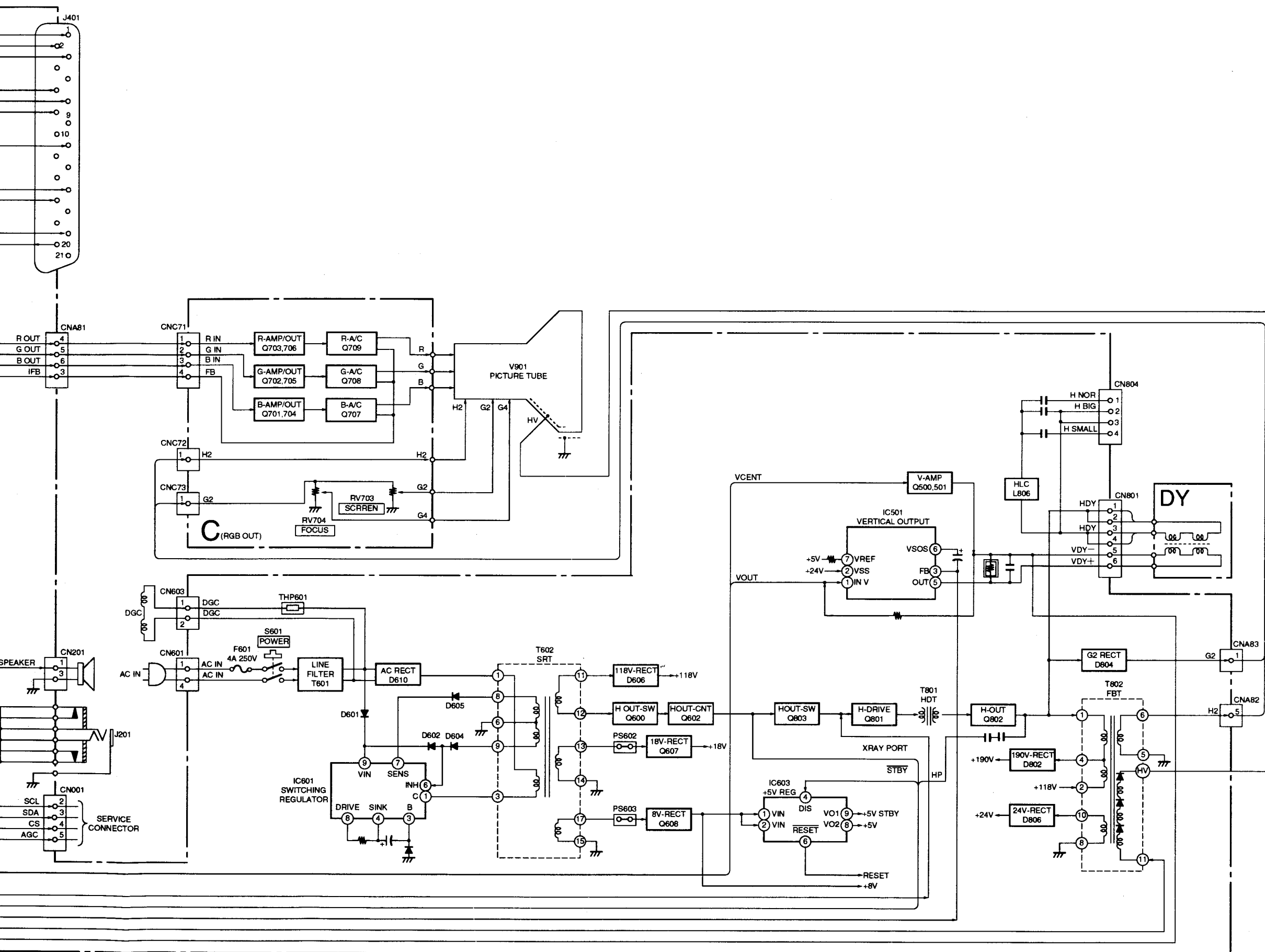
**Note :** Deflection System Adjustments should not be carried out whilst using an NTSC (60Hz) signal, or if the signal is unlocked.

## MEMO

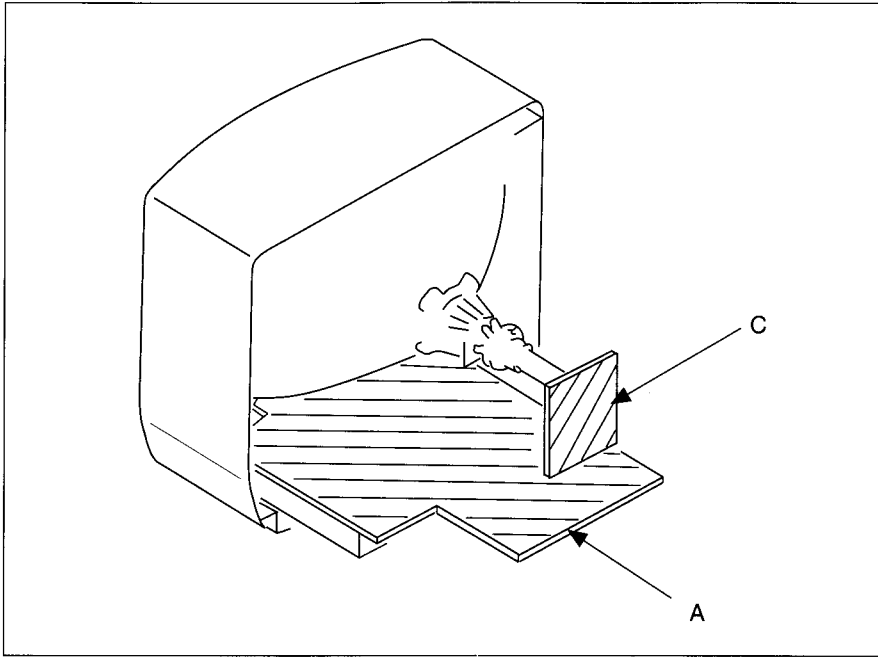
# SECTION 5 DIAGRAMS

5-1. BLOCK DIAGRAM





## 5-2. CIRCUIT BOARDS LOCATION



## 5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

### Note :

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.  
 $k = 1000$ ,  $M = 1000K$
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5 mm  
Rating electrical power  $\frac{1}{4}$  W

- : nonflammable resistor.
- : internal component.
- : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth - ground.
- : earth - chassis.
- : no mounted.

**Note :** The components identified by shading and marked are critical for safety. Replace only with the part number specified.

**Note :** Les composants identifiés par une trame et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifique.

### Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: .	ADJUSTABLE RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

- Readings are taken with a colour-bar signal input.
- Readings are taken with 10M digital multimeter.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- : B+ bus.
- : signal path. (RF)

## — A BOARD —

IC	Q301 F-6	D311 G-8
IC001 H-4	Q302 G-7	D312 G-8
IC002 G-4	Q303 G-7	D313 G-8
IC003 C-1	Q304 F-7	D401 H-12
IC101 G-10	Q305 G-7	D402 H-5
IC301 G-5	Q306 G-8	D403 H-12
IC302 H-7	Q307 F-12	D404 H-12
IC401 E-2	Q401 H-10	D405 H-12
IC501 D-11	Q402 F-2	D406 H-11
IC601 A-5	Q403 F-3	D407 G-12
IC603 E-3	Q404 F-4	D408 I-12
	Q500 D-12	D409 F-3
	Q501 E-12	D410 I-11
	Q600 D-6	D501 E-11
	Q602 D-5	D600 D-6
	Q801 E-6	D601 A-6
	Q802 D-8	D602 B-6
	Q803 E-5	D603 A-4
		D604 B-6
		D605 B-6
		D606 D-6
		D607 E-6
		D608 D-5
		D610 B-4
		D611 D-6
		D612 E-5
		D802 C-7
		D804 D-8
		D806 A-7
		D807 E-5

TRANSISTOR	Q001 H-8	
Q002 I-4	Q005 H-2	
Q006 H-9	Q007 G-1	
Q008 F-1	Q009 E-1	
Q010 F-4	Q011 H-8	
Q012 G-3	Q013 F-3	
Q014 G-2	Q015 G-4	
Q100 F-2	Q101 G-11	
Q102 G-11	Q103 G-11	
Q105 F-2	Q107 H-9	
Q109 G-10	Q111 G-8	
Q113 G-9	Q115 F-10	
Q116 F-9	Q300 F-7	

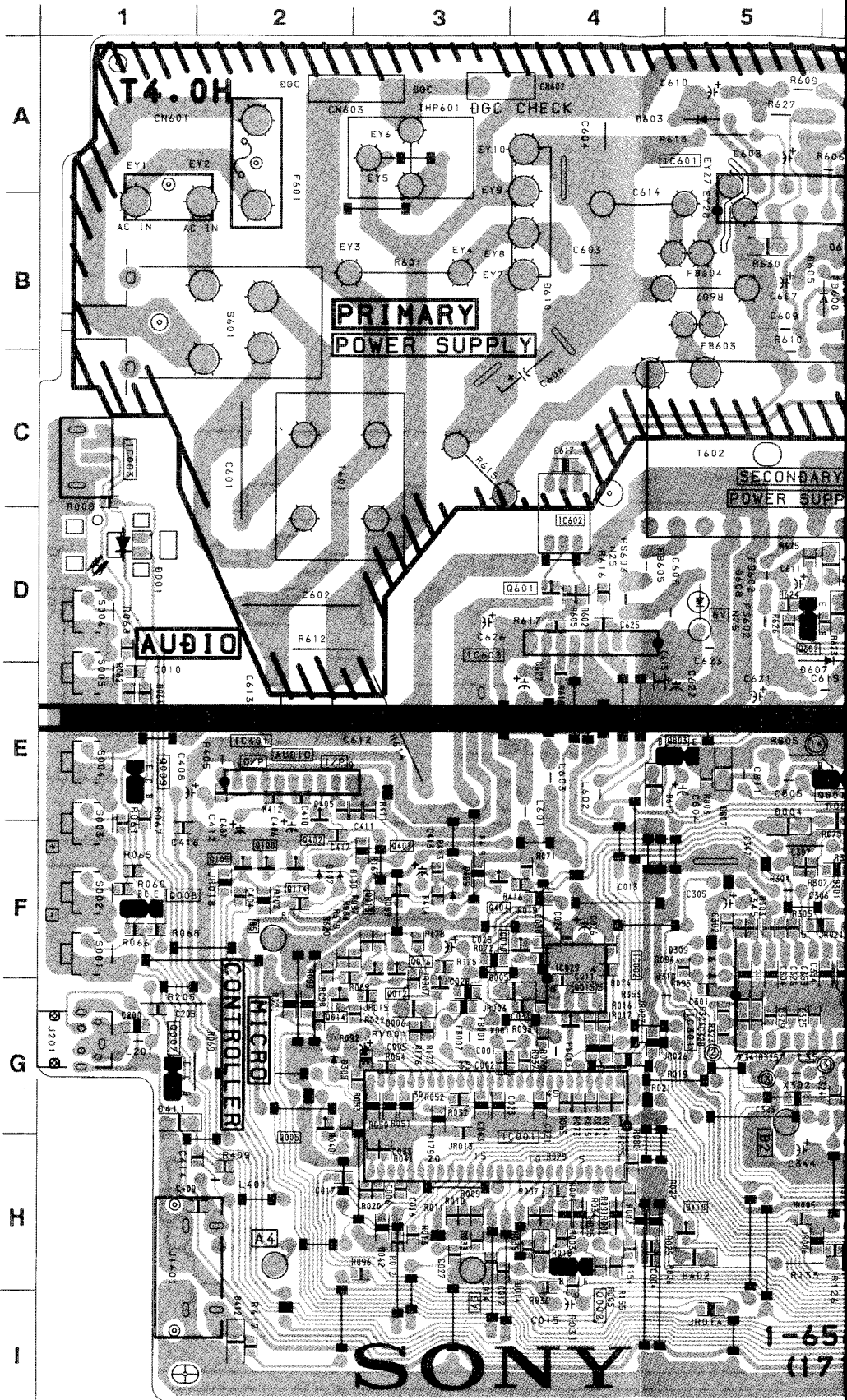
DIODE	D001 D-1	
D002 F-8	D004 F-5	
D005 G-4	D014 I-4	
D017 F-2	D107 F-2	
D109 F-9	D301 F-6	
D302 F-7	D305 G-2	
D307 G-11	D308 E-12	
D309 F-5	D310 G-5	

○ Mark : M1440B, M1441B ONLY

A

SYSTEM CONTROL, HORIZONTAL OUTPUT,  
VERTICAL OUTPUT, CHROMINANCE,  
POWER, AUDIO

— A BOARD —





**A**

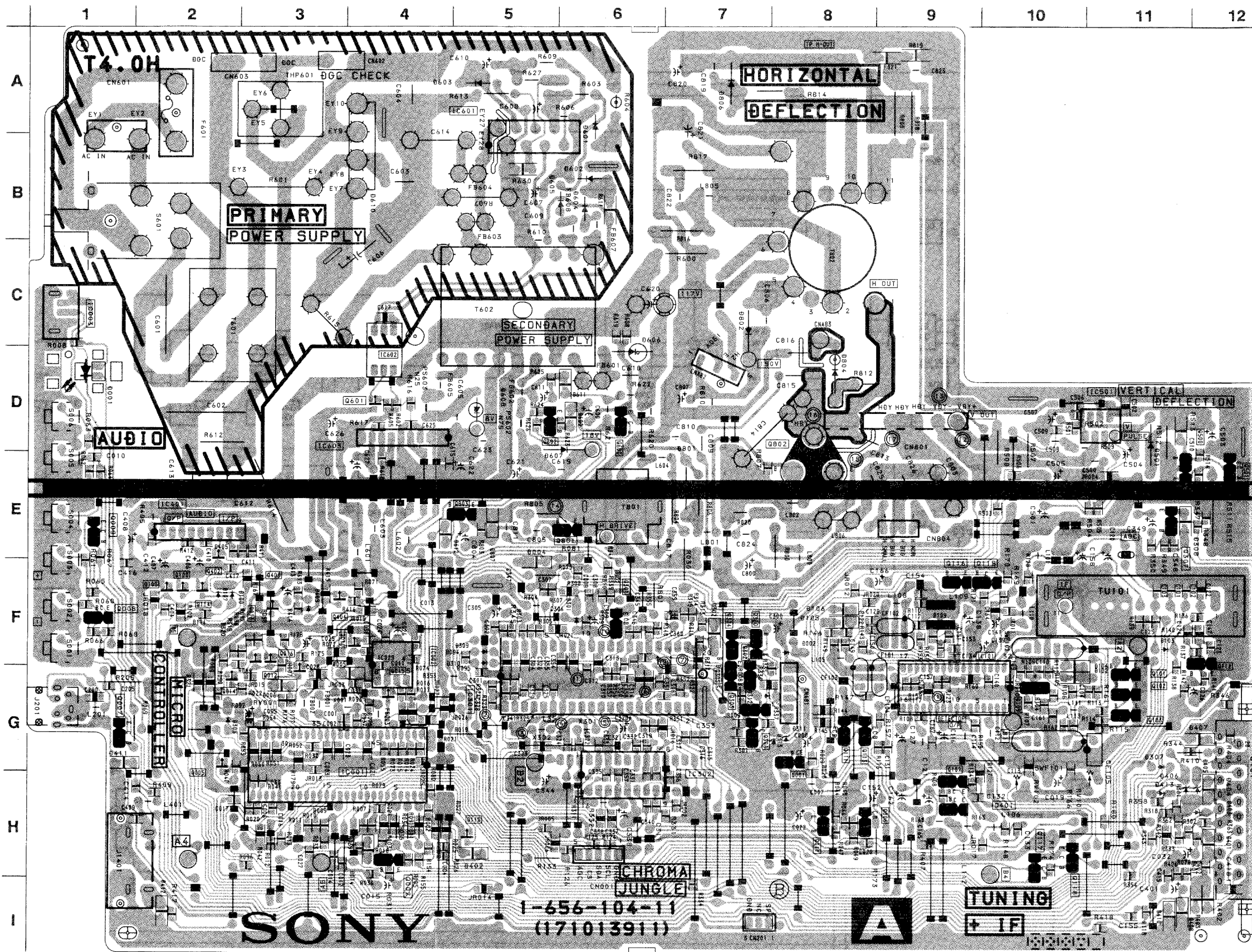
SYSTEM CONTROL, HORIZONTAL OUTPUT,  
VERTICAL OUTPUT, CHROMINANCE,  
POWER, AUDIO

— A BOARD —

— A BOARD —

IC							
IC001	H-4	Q301	F-6	D311	G-8		
IC002	G-4	Q302	G-7	D312	G-8		
IC003	C-1	Q303	G-7	D313	G-8		
IC101	G-10	Q304	F-7	D401	H-12		
IC301	G-5	Q305	G-7	D402	H-5		
IC302	H-7	Q306	G-8	D403	H-12		
IC401	E-2	Q307	F-12	D404	H-12		
IC501	D-11	Q401	H-10	D405	H-12		
IC601	A-5	Q402	F-2	D406	H-11		
IC603	E-3	Q403	F-3	D407	G-12		
		Q404	F-4	D408	I-12		
		Q500	D-12	D409	F-3		
		Q501	E-12	D410	I-11		
		Q600	D-6	D501	E-11		
		Q602	D-5	D600	D-6		
		Q801	E-6	D601	A-6		
		Q802	D-8	D602	B-6		
		Q803	E-5	D603	A-4		
				D604	B-6		
				D605	B-6		
				D606	D-6		
				D607	E-6		
				D608	D-5		
				D610	B-4		
				D611	D-6		
				D612	E-5		
				D802	C-7		
				D804	D-8		
				D806	A-7		
				D807	E-5		
TRANSISTOR							
Q001	H-8						
Q002	I-4						
Q005	H-2						
Q006	H-9						
Q007	G-1						
Q008	F-1						
Q009	E-1						
Q010	F-4						
Q011	H-8						
Q012	G-3						
Q013	F-3						
Q014	G-2						
Q015	G-4						
Q100	F-2						
Q101	G-11						
Q102	G-11						
Q103	G-11						
Q105	F-2						
Q107	H-9						
Q109	G-10						
Q111	G-8						
Q113	G-9						
Q115	F-10						
Q116	F-9						
Q300	F-7						

○ Mark : M1440B, M1441B ONLY

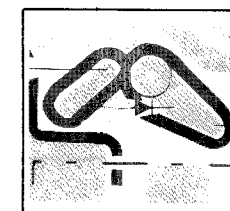
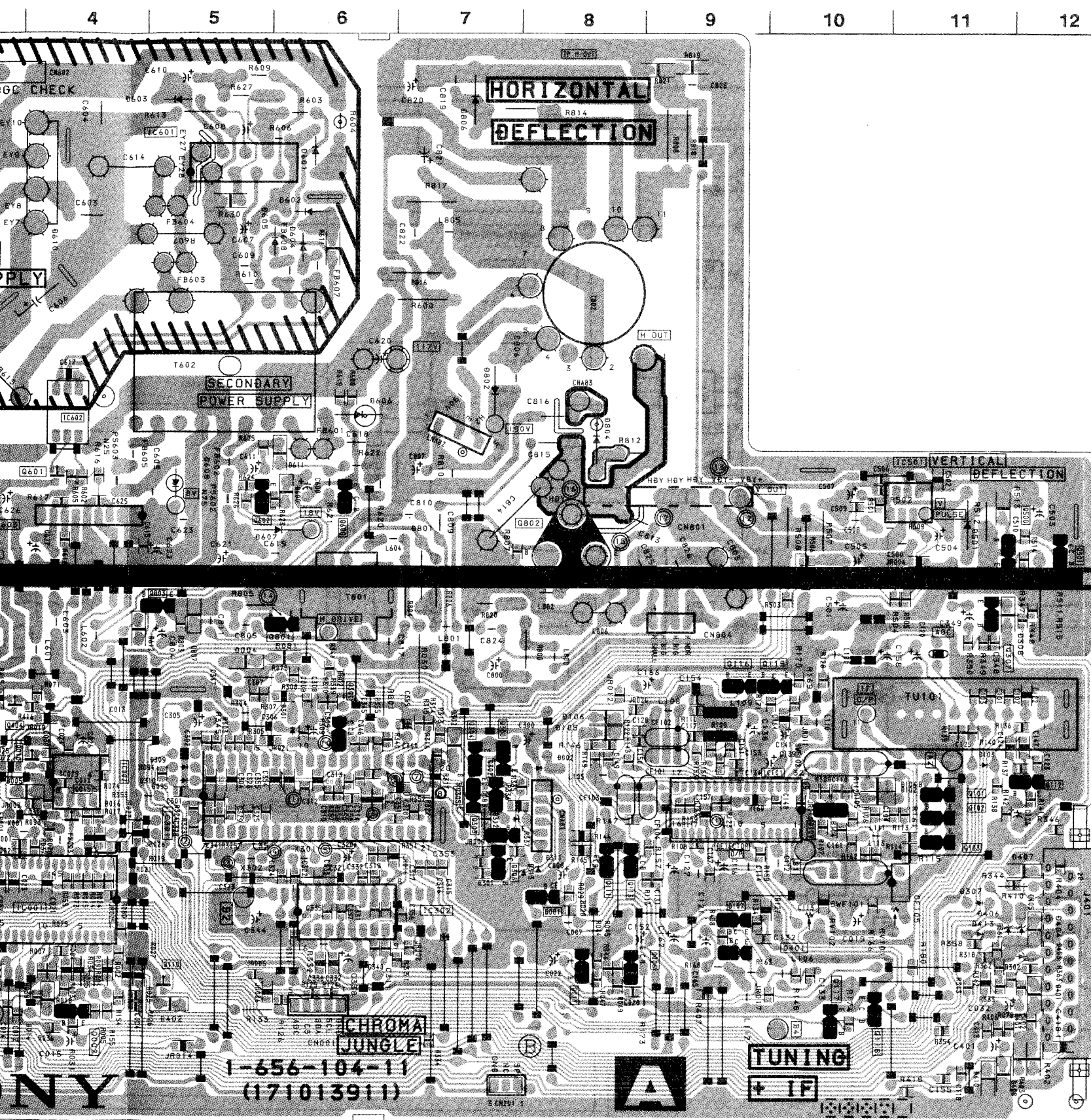


A BOARD

Model	Ref. No.
CN602	
C131	
CF101	
CF102	
CF103	
CF104	
D105	
D106	
IC001	
IC101	
IC301	
L108	
Q111	
Q113	
R122	
R134	
R143	
R144	
R145	
R147	
R149	
R158	
R161	
R180	
R410	
SWF101	
TU101	

Model	Ref. No.
CN602	
C131	
CF101	
CF102	
CF103	
CF104	
D105	
D106	
IC001	
IC101	
IC301	
L108	
Q111	
Q113	
R122	
R134	
R143	
R144	
R145	
R147	
R149	
R158	
R161	
R180	
R410	
SWF101	
TU101	



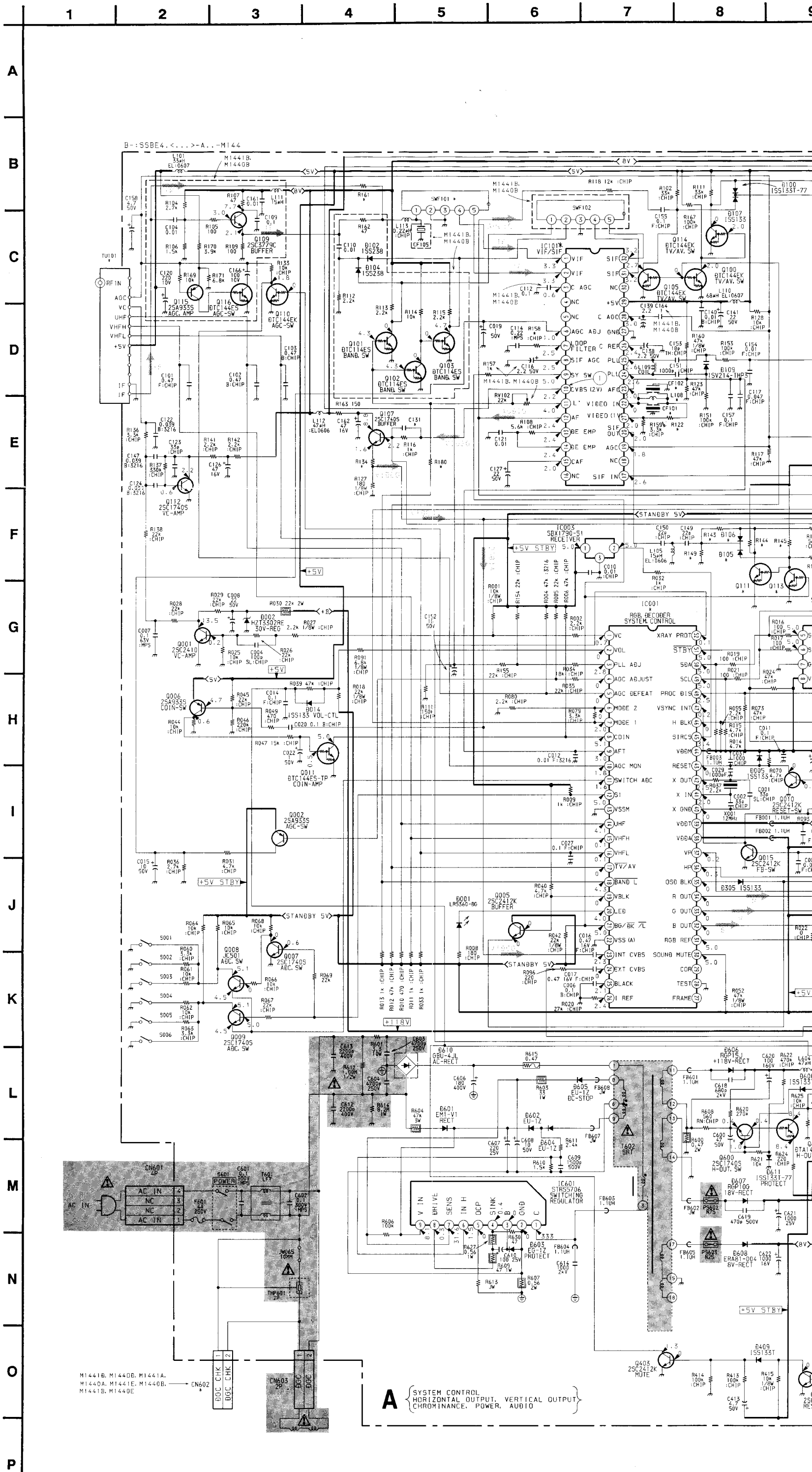


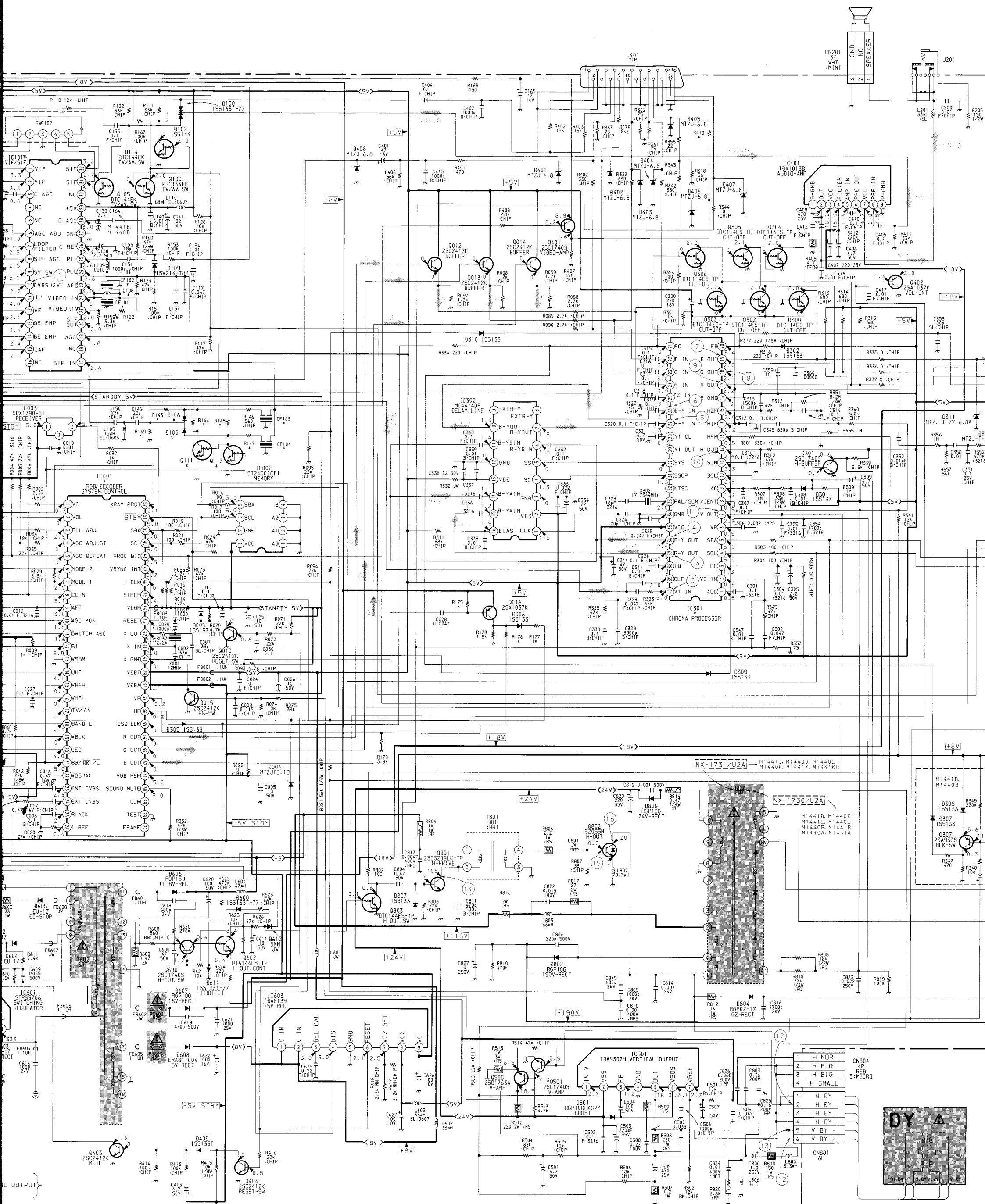
**NOTE:**  
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

# A BOARD \* MARK

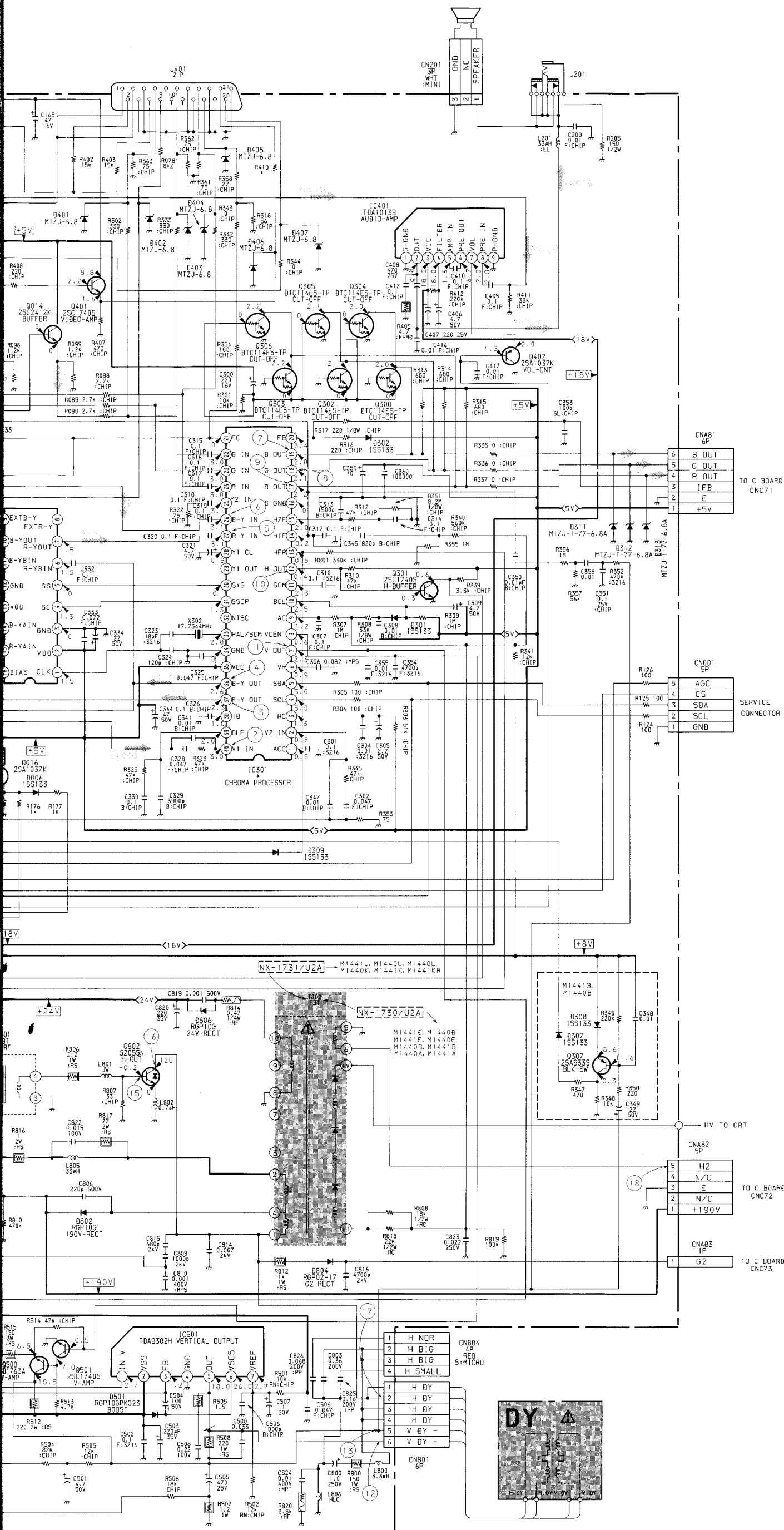
Model	M1440A	M1441A	M1440B	M1441B	M1440D	M1441D	M1440E
Ref. No.	2P	2P	2P	2P	2P	2P	2P
C131	—	—	—	—	—	—	—
CF101	5.5 / 5.74 MHz	5.5 / 5.74 MHz	5.5 / 6.5 MHz	5.5 / 6.5 MHz	5.5 / 5.74 MHz	5.5 / 5.74 MHz	5.5 / 5.74 MHz
CF102	—	—	—	—	—	—	—
CF103	5.5 MHz	5.5 MHz	5.5 MHz	5.5 MHz	5.5 MHz	5.5 MHz	5.5 MHz
CF104	—	—	—	—	—	—	—
D105	—	—	—	—	—	—	—
D106	—	—	—	—	—	—	—
IC001	SAA5288ZP/007	SAA5290ZP/007	SAA5288ZP/007	SAA5290ZP/007	SAA5288ZP/007	SAA5290ZP/007	SAA5288ZP/007
IC101	TDA9806	TDA9806	TDA9806	TDA9812	TDA9806	TDA9806	TDA9806
IC301	MC44007P	MC44007P	MC44002P	MC44002P	MC44002P	MC44002P	MC44007P
L108	8.2 UH	8.2 UH	8.2 UH	8.2 UH	8.2 UH	8.2 UH	8.2 UH
Q111	—	—	—	—	—	—	—
Q113	—	—	—	—	—	—	—
R122	150	150	150	150	150	150	150
R134	180	180	180	180	180	180	180
R143	0	0	0	0	0	0	0
R144	—	—	—	—	—	—	—
R145	—	—	—	—	—	—	—
R147	—	—	—	—	—	—	—
R149	—	—	—	—	—	—	—
R158	—	—	180	180	—	—	—
R161	0	0	—	—	0	0	0
R180	—	—	1K	1K	—	—	—
R410	75	75	75	75	75	75	75
SWF101	OPWG1963	OPWG1963	OFWK3953	OFWK3953	OPWG1963	OPWG1963	OPWG1963
TU101	TELE1X001A	TELE1X001A	BT-AC401	BT-AC401	BT-AC401	BT-AC401	BT-AC401

Model	M1441E	M1440K	M1441K	M1441KR	M1440L	M1440U	M1441U
Ref. No.	2P	—	—	—	—	—	—
C131	—	0.001	0.001	0.001	—	—	—
CF101	5.5 / 5.74 MHz	5.5 / 5.74 MHz	5.5 / 5.74 MHz	5.5 / 5.74 MHz	6.0 / 6.5 MHz	6.0 / 6.5 MHz	6.0 / 6.5 MHz
CF102	—	6.5 MHz	6.5 MHz	6.5 MHz	—	—	—
CF103	5.5 MHz	5.5 MHz	5.5 MHz	5.5 MHz	6.0 MHz	6.0 MHz	6.0 MHz
CF104	—	6.5 MHz	6.5 MHz	6.5 MHz	—	—	—
D105	—	1SS133T	1SS133T	1SS133T	—	—	—
D106	—	1SS133T	1SS133T	1SS133T	—	—	—
IC001	SAA5290ZP/007	SAA5288ZP/007	SAA5290ZP/007	SAA5290ZP/006	SAA5288ZP/005	SAA5288ZP/005	SAA5290ZP/005
IC101	TDA9806	TDA9806	TDA9806	TDA9806	TDA9806	TDA9806	TDA9806
IC301	MC44007P	MC44002P	MC44002P	MC44002P	MC44007P	MC44007P	MC44007P
L108	8.2 UH	4.7 UH	4.7 UH	4.7 UH	8.2 UH	8.2 UH	8.2 UH
Q111	—	DTC144ES	DTC144ES	DTC144ES	—	—	—
Q113	—	DTC144ES	DTC144ES	DTC144ES	—	—	—
R122	150	100	100	100	150	150	150
R134	180	180	180	180	150	150	150
R143	0	—	—	—	0	0	0
R144	—	2.2 K	2.2 K	2.2 K	—	—	—
R145	—	2.2 K	2.2 K	2.2 K	—	—	—
R147	—	—	560	560	—	—	—
R149	—	2.2 K	2.2 K	2.2 K	—	—	—
R158	—	—	—	—	—	—	—
R161	0	0	0	0	0	0	0
R180	—	—	—	—	—	—	—
R410	75	75	75	75	68	68	68
SWF101	OPWG1963	OFWK2950	OFWK2950	OFWK2950	OFWJ1952M	OFWJ1952M	OFWJ1952M
TU101	BT-AC401	UV1315	UV1315	TELE1X001A	UV1315	BT-AU601	BT-AU601

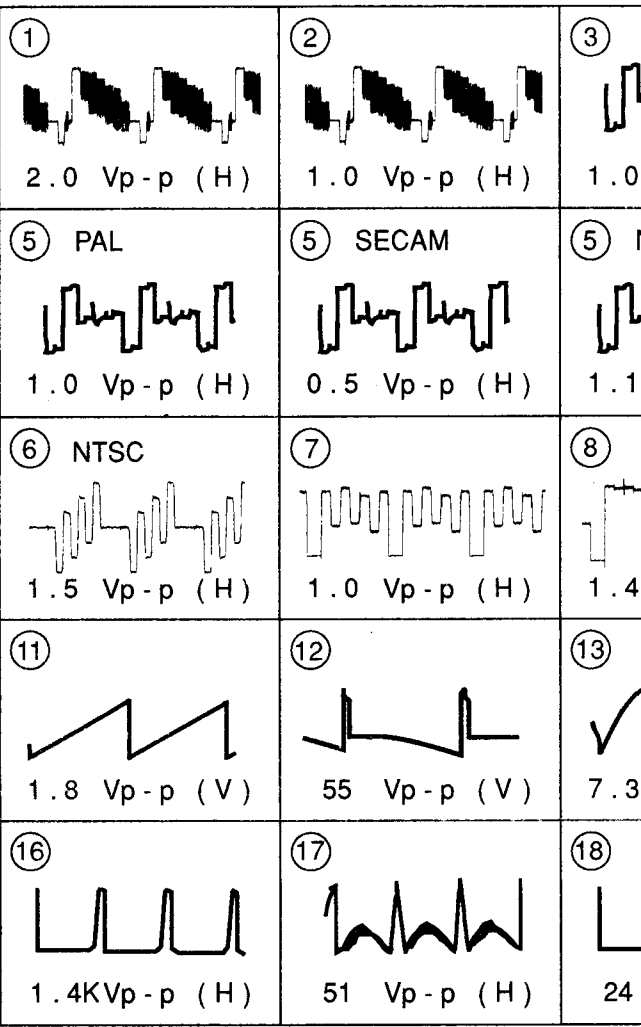




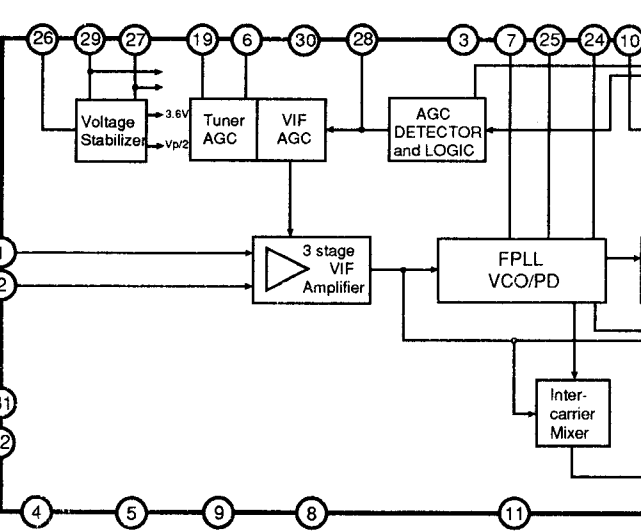




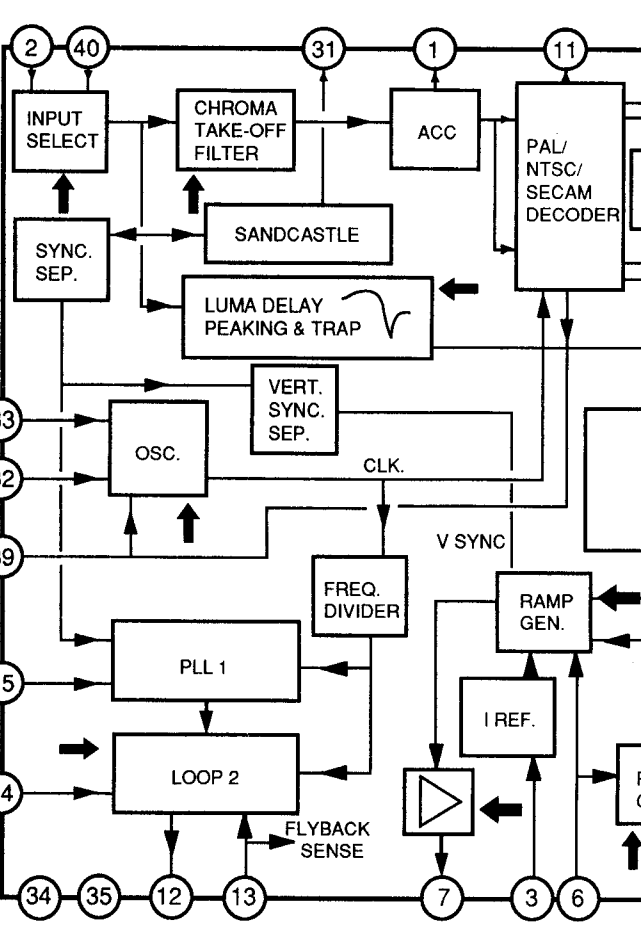
WAVEFORMS A BOARD



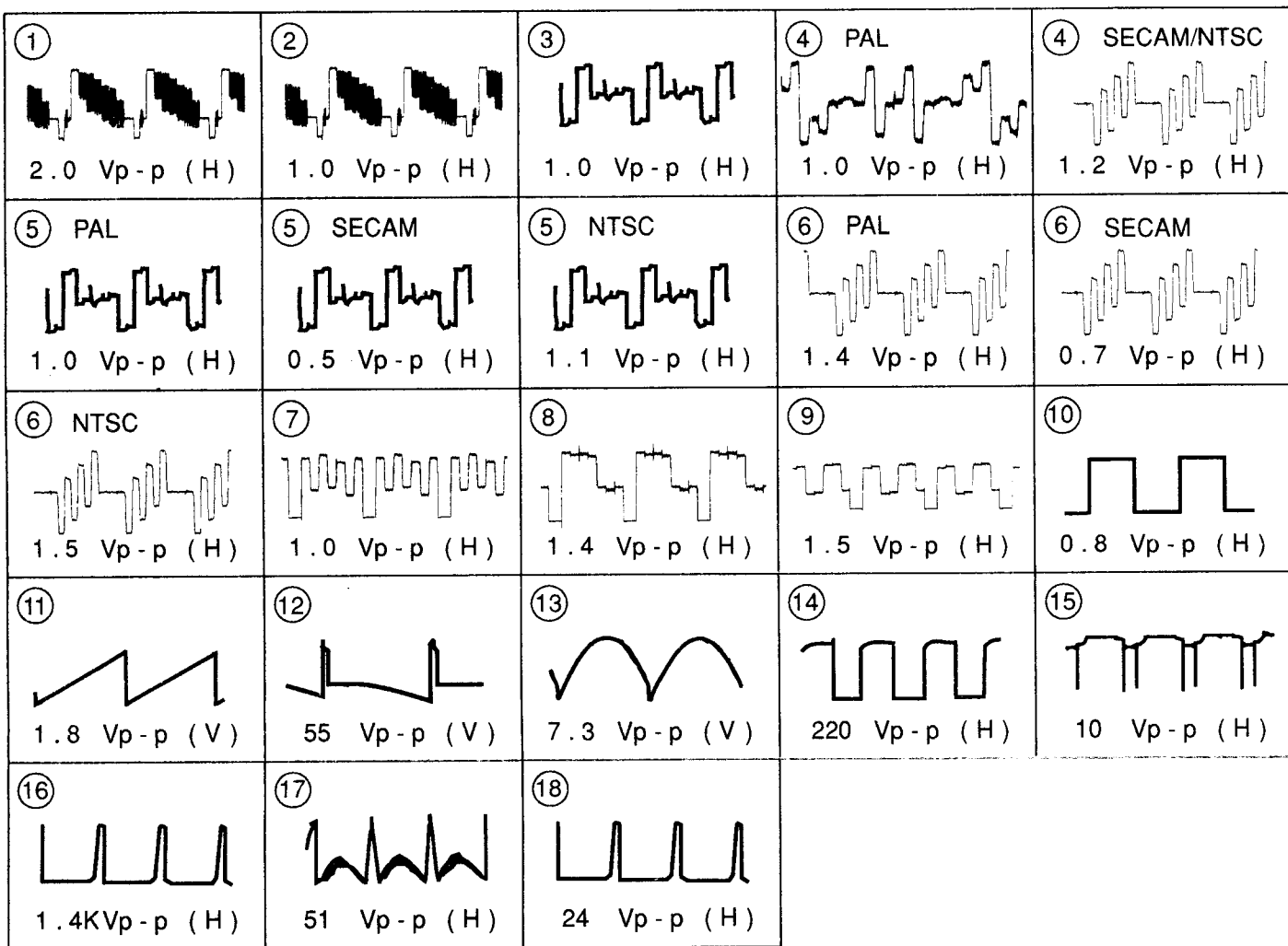
A BOARD IC101 TDA9806/TDA9812



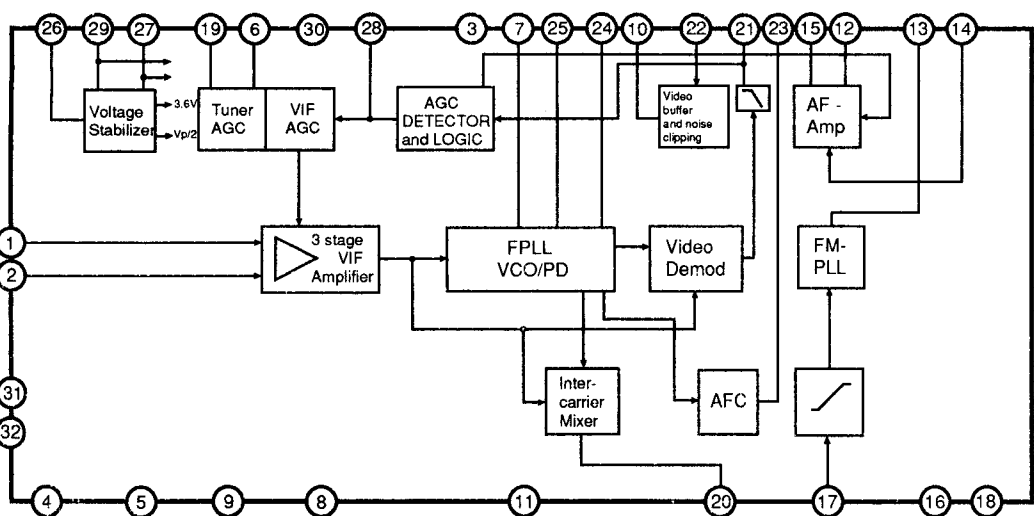
A BOARD IC301 MC4402P/MC44007P



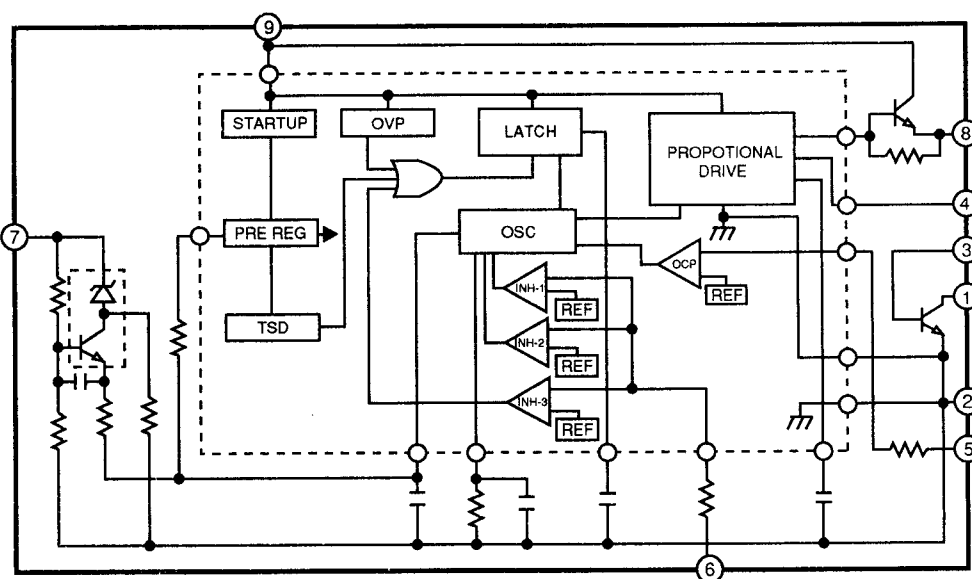
# WAVEFORMS A BOARD



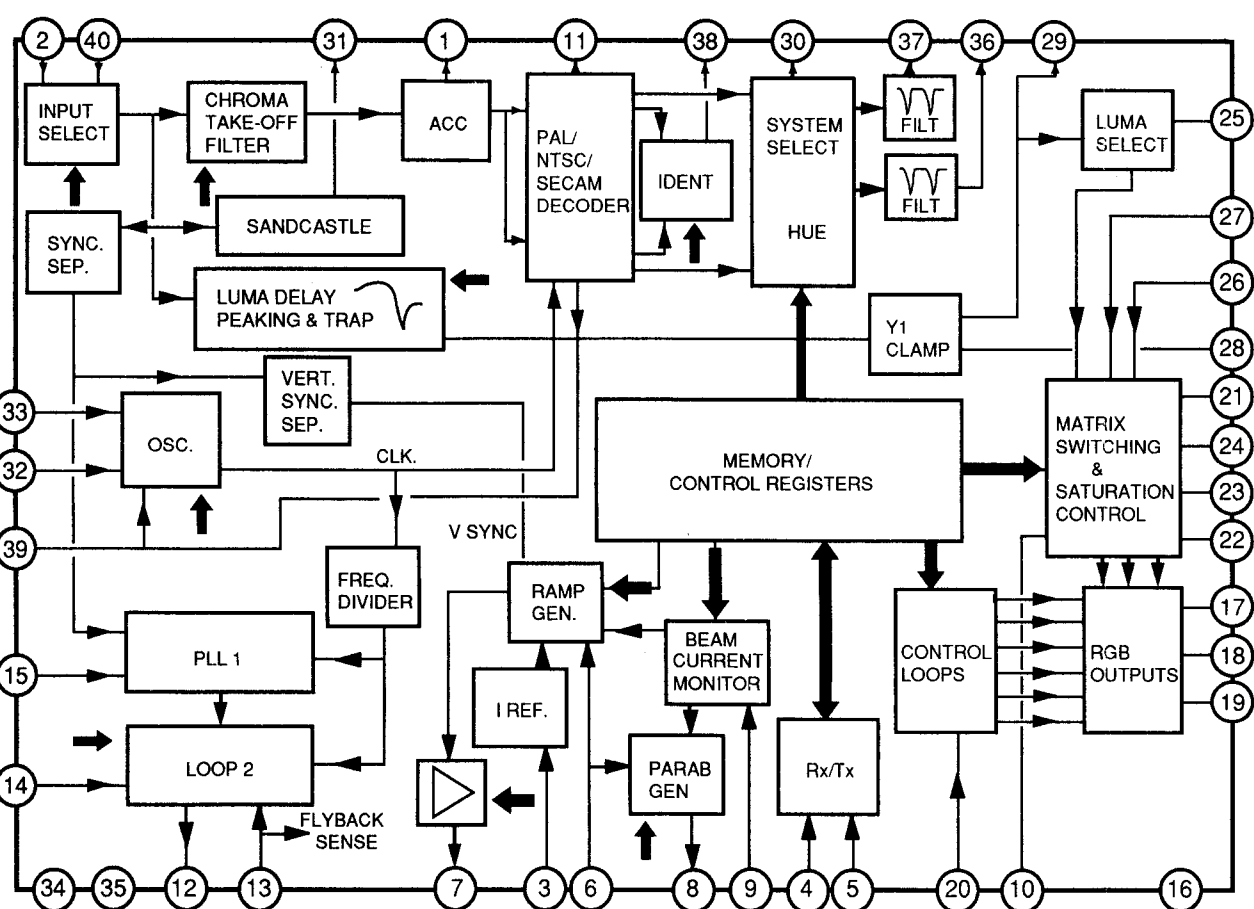
## A BOARD IC101 TDA9806/TDA9812



## A BOARD IC601 STRS5706



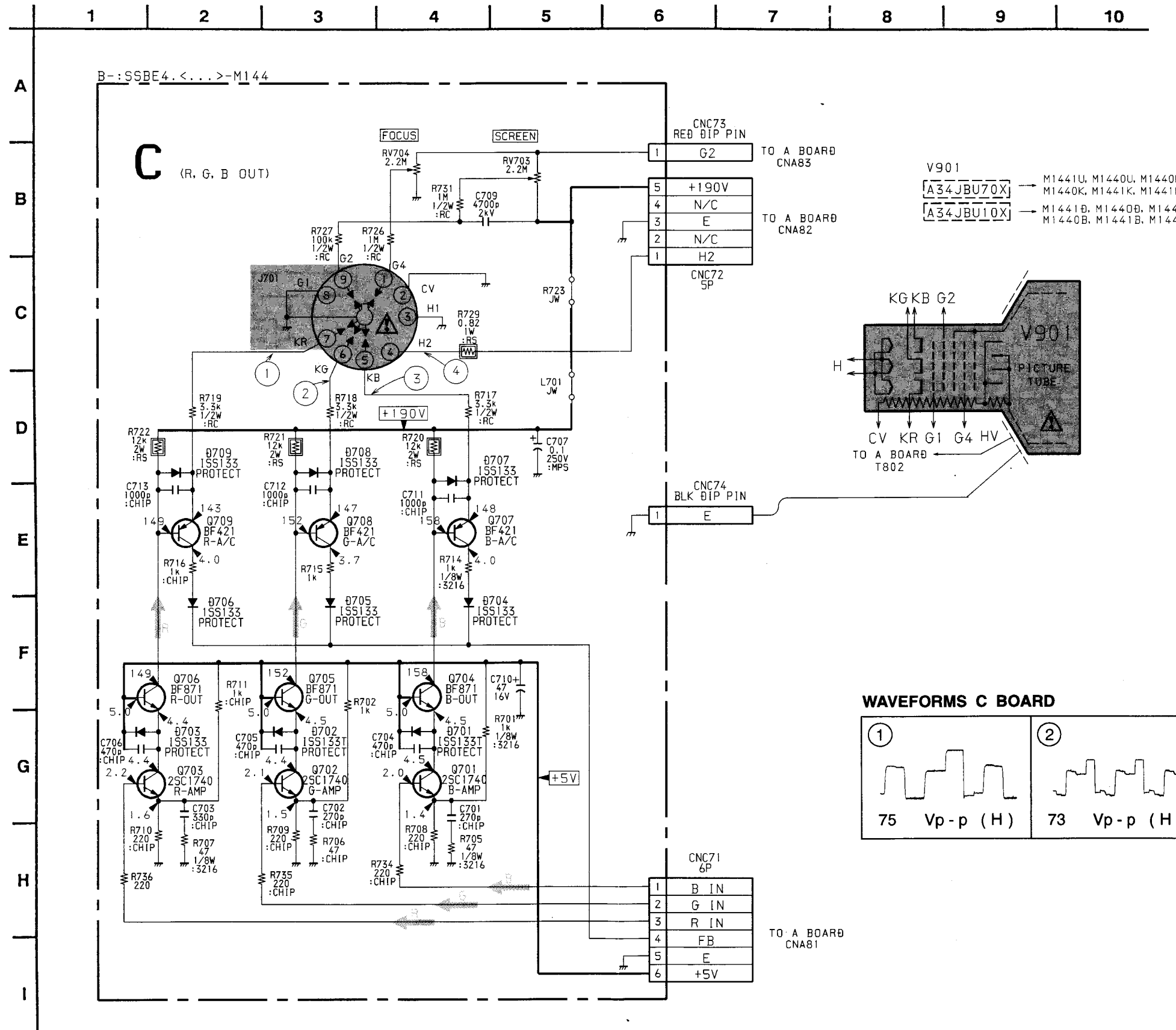
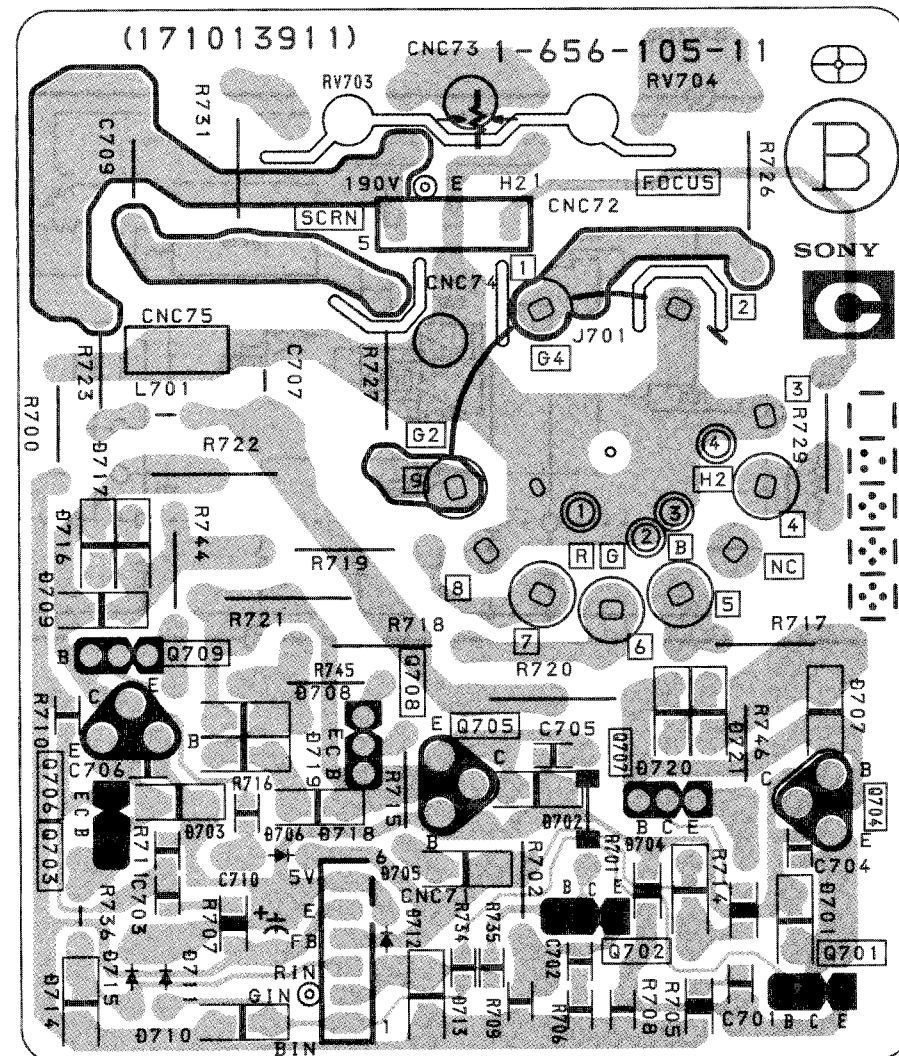
## A BOARD IC301 MC4402P/MC44007P



C

[R.G.B OUT]

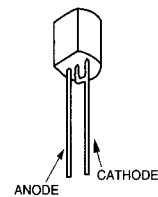
— C BOARD —



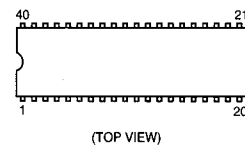


5-4. SEMICONDUCTORS

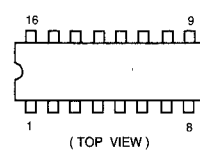
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UPC574J



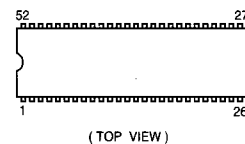
MC44002P  
MC44007P



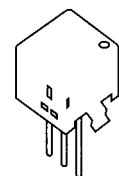
MC44140P



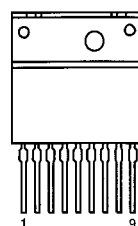
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SAA5288ZP/007  
SAA5290ZP/005  
SAA5290ZP/006  
SAA5290ZP/007



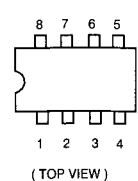
SBX1790-11  
SBX1790-51



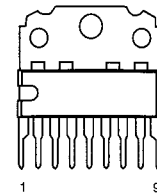
STR-S5706



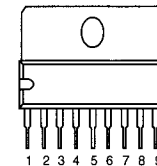
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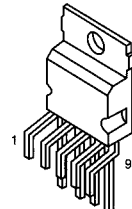
TDA1013B



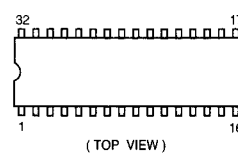
TDA8139



TDA9302H



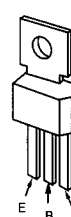
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TDA9812



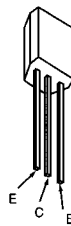
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2SA1091-0



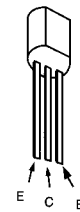
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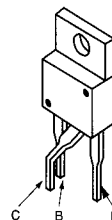
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DTC114ES  
DTC144ES



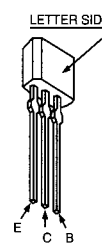
JA101-Q  
JC501-Q  
2SA733-K  
2SC2785-HFE



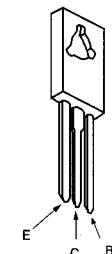
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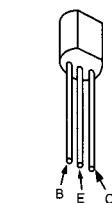
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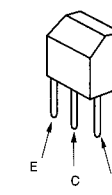
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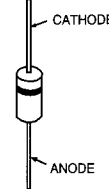
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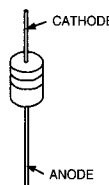
2SD774



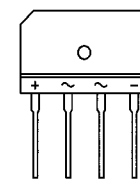
EG-1Z-V1 RGP02-17EL-6433  
EGP20G RGP02-17PKG23  
EL1Z RGP10-GPKG23  
EM1-V1 1SS168  
EU-1Z 1SS238  
HZT33



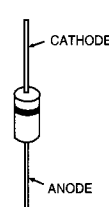
ERA81-004  
ERA83-006  
MTZJ-5.1B  
MTZJ-6.8A  
RD5.1ESB2  
RD6.8ESB2  
1SS133



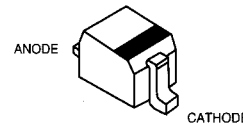
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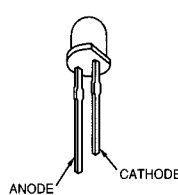
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1SV214



LR5360-DG



SECTION 6  
EXPLODED VIEWS

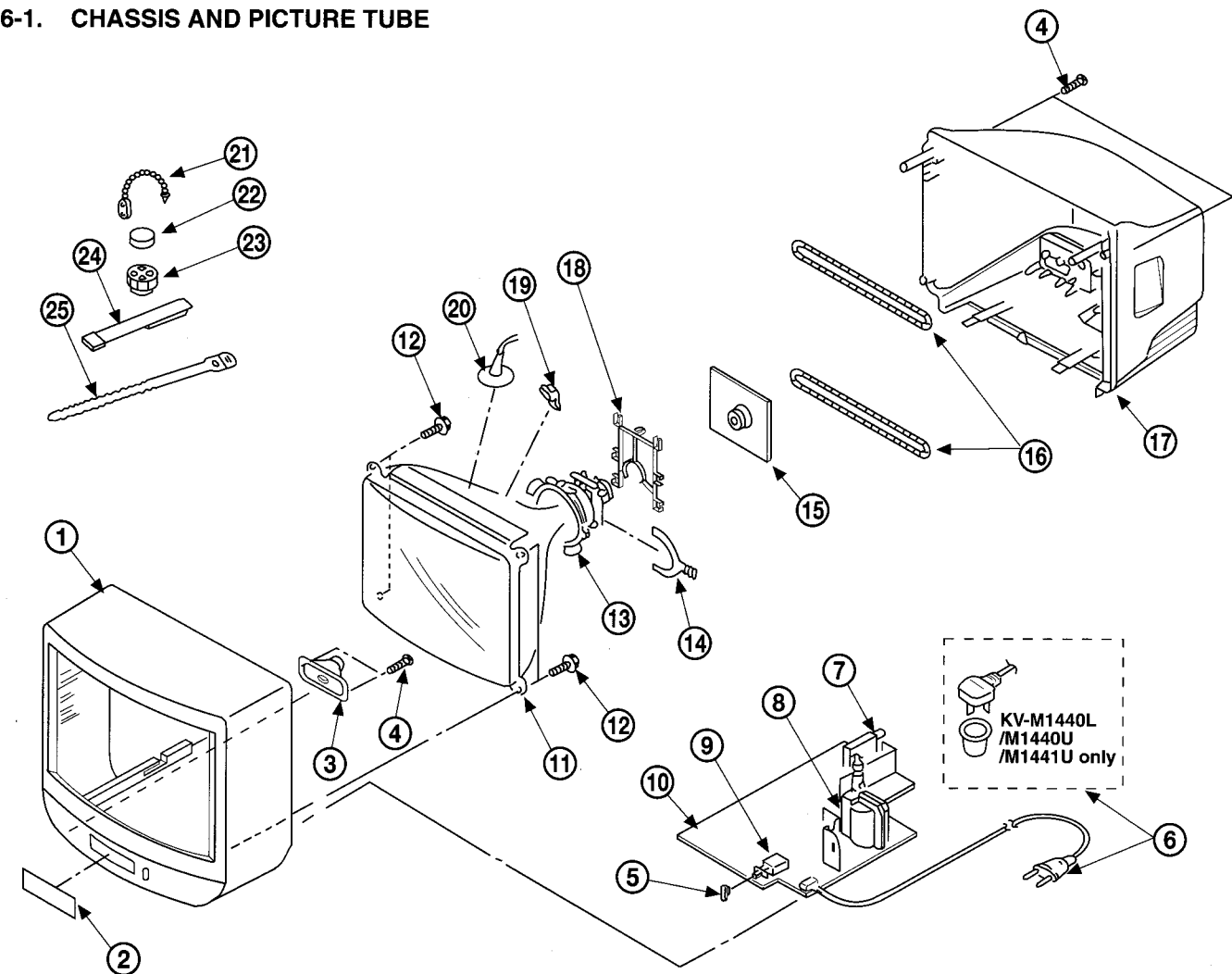
NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and marked are critical for safety. Replace only with the part number specified.


Les composants identifiés par une trame et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. CHASSIS AND PICTURE TUBE




REF NO	PART NO	DESCRIPTION	REMARK	REF NO	PART NO	DESCRIPTION	REMARK
1	X-4200-194-1	BEZNET ASSY (BLACK)		7	1-590-460-11	CORD, POWER (WITH CONNECTOR)	
2	X-4200-194-2	BEZNET ASSY (WHITE)			7-0A/250V (KV-M1440K/M1441K/M1441U)		
	4-203-014-01	WINDOW, ORNAMENTAL			CORD, POWER (WITH PLUG)		
		(KV-M1441K/M1441KR/M1441U)			2-5A/250V (KV-M1440U/M1441U/M1441U)		
	4-203-014-11	WINDOW, ORNAMENTAL			CORD, POWER (WITH CONNECTOR)		
		(KV-M1440K/M1440L/M1440U)			2-5A/250V (KV-M1440A/M1441A/M1441U)		
	4-203-014-21	WINDOW, ORNAMENTAL			M1440B/M1440D/M1441B/M1441E)		
		(KV-M1441B/M1441D/M1441E)		7	1-693-302-11	TUNER (UV1315)	
	4-203-014-31	WINDOW, ORNAMENTAL				(KV-M1440K/M1441K/M1440L)	
		(KV-M1440A/M1440B/M1440D/M1440E)			1-693-303-11	TUNER (TELE1X001A)	
	4-203-014-41	WINDOW, ORNAMENTAL				(KV-M1440A/M1441A/M1441KR)	
3	1-504-899-11	SPEAKER (9x5CM)			8-598-331-00	TUNER (BT-AC401)	(KV-M1440B/M1441B
4	4-039-358-01	SCREW (4x16), (+)BV TAPPING				/M1440D/M1441D/M1440E/M1441E)	
5	4-203-020-01	BUTTON, POWER			8-598-333-00	TUNER (BT-AU601)	(KV-M1440U/M1441U)












The components identified by shading and marked  are critical for safety.

Replace only with the part number specified.

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifié.

REF NO	PART NO	DESCRIPTION	REMARK	REF NO	PART NO	DESCRIPTION	REMARK
8	 1-453-186-11	TRANSFORMER ASSY, FLYBACK (NX-1730/U2A) (KV-M1440A/M1441A/M1440B/M1441B/ M1440D/M1441D/M1440E/M1441E)					
	 1-453-186-11	TRANSFORMER ASSY, FLYBACK (NX-1731/U2A) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)					
9	 1-571-433-11	SWITCH, PUSH (AC POWER)					
10	*A-1666-005-A	A AND C BOARD, COMPLETE (KV-M1441D)					
	*A-1666-006-A	A AND C BOARD, COMPLETE (KV-M1440U)					
	*A-1666-007-A	A AND C BOARD, COMPLETE (KV-M1440L)					
	*A-1666-008-A	A AND C BOARD, COMPLETE (KV-M1441K)					
	*A-1666-009-A	A AND C BOARD, COMPLETE (KV-M1440K)					
	*A-1666-010-A	A AND C BOARD, COMPLETE (KV-M1441KR)					
	*A-1666-011-A	A AND C BOARD, COMPLETE (KV-M1441U)					
	*A-1666-012-A	A AND C BOARD, COMPLETE (KV-M1440D)					
	*A-1666-013-A	A AND C BOARD, COMPLETE (KV-M1441A)					
	*A-1666-014-A	A AND C BOARD, COMPLETE (KV-M1440A)					
	*A-1666-015-A	A AND C BOARD, COMPLETE (KV-M1441E)					
	*A-1666-016-A	A AND C BOARD, COMPLETE (KV-M1440E)					
	*A-1666-017-A	A AND C BOARD, COMPLETE (KV-M1440B)					
	*A-1666-018-A	A AND C BOARD, COMPLETE (KV-M1441B)					
11	 8-735-561-05	PICTURE TUBE (SD-125) (A34JBU10X) (KV-M1440A/M1441A/M1440B/M1441B/ M1440D/M1441D/M1440E/M1441E)					
	 8-735-562-05	PICTURE TUBE (SD-125) (A34JBU70X) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)					
12	4-036-190-01	SCREW (5), TAPPING					
13	 1-451-249-31	DEFLECTION YOKE (Y14NDA2) (KV-M1440A/M1441A/M1440B/M1441B/ M1440D/M1441D/M1440E/M1441E)					
	 8-451-249-84	DEFLECTION YOKE (Y14NDA2) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)					
14	1-452-277-13	MAGNET, BMC					
15	*A-1638-063-A	C BOARD, COMPLETE (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)					
	*A-1638-064-A	C BOARD, COMPLETE (KV-M1440A/M1441A/M1440B/M1441B/ M1440D/M1441D/M1440E/M1441E)					
16	 1-426-145-21	COIL, DEGAUSSING					
17	4-203-019-01	COVER (SC), REAR (BLACK)					
	4-203-019-11	COVER (SC), REAR (WHITE)					
18	*4-203-022-01	HOLDER, HV					
19	3-704-495-01	SPACER, DY					
20	 1-540-007-11	CAP ASSY, HIGH-VOLTAGE					
21	4-308-870-00	CLIP, LEAD WIRE					
22	1-452-032-00	MAGNET, DISK; 10MM Ø					
23	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø					
24	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE					
25	3-701-007-00	BAND, BINDING					

## SECTION 7

### ELECTRICAL PARTS LIST

When indicating parts by reference number, please include the board name.

**CAPACITORS**

MF : mF, PF : mmF

**COILS**MMH : mH,  $\mu$ H :  $\mu$ H

# A and C

- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

**RESISTORS**

- All resistors are in ohms
- F : nonflammable

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Les composants identifiés par une trame et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.


REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1666-014-A	A AND C BOARD, COMPLETE ***** (KV-M1440A)		C024	1-163-038-91	CERAMIC CHIP 0.1MF	25V
	*A-1666-013-A	A AND C BOARD, COMPLETE ***** (KV-M1441A)		C025	1-126-964-11	ELECT 10MF 20%	50V
	*A-1666-017-A	A AND C BOARD, COMPLETE ***** (KV-M1440B)		C026	1-126-964-11	ELECT 10MF 20%	50V
	*A-1666-018-A	A AND C BOARD, COMPLETE ***** (KV-M1441B)		C027	1-163-038-91	CERAMIC CHIP 100000PF	25V
	*A-1666-012-A	A AND C BOARD, COMPLETE ***** (KV-M1440D)		C028	1-163-043-91	CERAMIC CHIP 15PF	5% 50V
	*A-1666-005-A	A AND C BOARD, COMPLETE ***** (KV-M1441D)		C029	1-163-009-91	CERAMIC CHIP 1000PF	10% 50V
	*A-1666-016-A	A AND C BOARD, COMPLETE ***** (KV-M1440E)		C030	1-163-021-91	CERAMIC CHIP 10000PF	10% 100V
	*A-1666-015-A	A AND C BOARD, COMPLETE ***** (KV-M1441E)		C031	1-163-009-91	CERAMIC CHIP 1000PF	5% 25V
	*A-1666-009-A	A AND C BOARD, COMPLETE ***** (KV-M1440K)		C101	1-164-005-11	CERAMIC CHIP 0.47MF	16V
	*A-1666-008-A	A AND C BOARD, COMPLETE ***** (KV-M1441K)		C102	1-164-005-11	CERAMIC CHIP 0.47MF	16V
	*A-1666-010-A	A AND C BOARD, COMPLETE ***** (KV-M1441KR)		C103	1-164-005-11	CERAMIC CHIP 0.47MF	16V
	*A-1666-006-A	A AND C BOARD, COMPLETE ***** (KV-M1440U)		C104	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V (KV-M1440B/M1441B)
	*A-1666-011-A	A AND C BOARD, COMPLETE ***** (KV-M1441U)		C109	1-163-038-91	CERAMIC CHIP 0.1MF	25V (KV-M1440B/M1441B)
	*A-1666-007-A	A AND C BOARD, COMPLETE ***** (KV-M1440L)		C110	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V (KV-M1440B/M1441B)
	4-382-854-11	SCREW (M3X10), P, SW (+)		C112	1-137-399-11	FILM 0.1MF	5% 50V (KV-M1440B/M1441B)
	< CAPACITOR >			C114	1-136-169-00	FILM 0.22MF	5% 50V
C001	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C116	1-124-925-11	ELECT 2.2MF	20% 50V (KV-M1440B/M1441B)
C002	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C117	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C004	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C120	1-126-923-11	ELECT 220MF	20% 10V
C005	1-126-964-11	ELECT 10MF	20% 50V	C121	1-136-153-00	FILM 0.01MF	5% 50V
C006	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C122	1-164-665-11	CERAMIC CHIP 0.039MF	10% 50V
C007	1-130-777-00	FILM 0.1MF	5% 63V	C123	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
C008	1-128-551-11	ELECT 22MF	20% 50V	C124	1-164-665-11	CERAMIC CHIP 0.039MF	10% 50V
C009	1-163-023-91	CERAMIC CHIP 0.015MF	10% 50V	C126	1-104-658-91	ELECT 47MF	20% 16V
C010	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	C127	1-128-551-11	ELECT 22MF	20% 50V
C011	1-163-038-91	CERAMIC CHIP 0.1MF	25V	C131	1-163-009-91	CERAMIC CHIP 0.001UF	10% 50V (KV-M1440KM144 1K/M1441KR)
C012	1-163-031-91	CERAMIC CHIP 10000PF	50V	C138	1-124-925-11	ELECT 2.2MF	20% 50V
C014	1-163-038-91	CERAMIC CHIP 0.1MF	25V	C139	1-124-925-11	ELECT 2.2MF	20% 50V
C015	1-126-964-11	ELECT 10MF	20% 50V	C140	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V
C016	1-164-005-11	CERAMIC CHIP 0.47MF	16V	C141	1-128-551-11	ELECT 22MF	20% 50V
C017	1-164-005-11	CERAMIC CHIP 0.47MF	16V	C147	1-164-665-11	CERAMIC CHIP 0.039MF	10% 50V
C019	1-124-903-11	ELECT 1MF	20% 50V	C149	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C020	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C150	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C022	1-124-903-11	ELECT 1MF	20% 50V	C151	1-163-009-91	CERAMIC CHIP 0.001MF	10% 50V
				C152	1-126-964-11	ELECT 10MF	20% 50V
				C153	1-163-099-00	CERAMIC CHIP 18PF	5% 50V
				C154	1-163-031-91	CERAMIC CHIP 0.01MF	50V
				C155	1-163-038-91	CERAMIC CHIP 0.1MF	25V
				C157	1-163-038-91	CERAMIC CHIP 0.1MF	25V

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Ne les remplacer que par une pièce portant le numéro spécifié.

**A and C**

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C158	1-124-927-11	ELECT 4.7MF	20% 50V	C359	1-126-964-11	ELECT 10MF	20% 50V
C161	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V (KV-M1440B/M1441B)	C360	1-163-021-91	CERAMIC CHIP 10000PF	10% 100V
C162	1-104-658-91	ELECT 47MF	20% 16V	C401	1-104-658-91	ELECT 47MF	20% 16V
C164	1-162-638-11	CERAMIC CHIP 1MF	16V (KV-M1440B/M1441B)	C402	1-163-009-91	CERAMIC CHIP 0.001MF	10% 50V
C165	1-104-658-91	ELECT 47MF	20% 16V	C404	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C166	1-104-658-91	ELECT 100MF	20% 10V (KV-M1440B/M1441B)	C405	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C200	1-163-071-91	CERAMIC CHIP 0.01MF	10% 50V	C406	1-124-927-11	ELECT 4.7MF	20% 50V
C300	1-126-934-11	ELECT 220MF	20% 16V	C407	1-104-666-11	ELECT 220MF	20% 25V
C301	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V	C408	1-126-941-11	ELECT 470MF	20% 25V
C302	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C410	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C304	1-163-059-91	CERAMIC CHIP 0.01MF	10% 50V	C412	1-163-038-91	CERAMIC CHIP 0.1MF	25V
C305	1-124-925-11	ELECT 2.2MF	20% 50V	C413	1-124-927-11	ELECT 4.7MF	20% 50V
C306	1-130-494-11	FILM 0.082MF	5% 50V	C415	1-163-009-91	CERAMIC CHIP 0.001MF	10% 50V
C307	1-163-038-91	CERAMIC CHIP 0.1MF	25V	C416	1-163-031-91	CERAMIC CHIP 0.01MF	50V
C308	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	C417	1-163-031-91	CERAMIC CHIP 0.01MF	50V
C309	1-124-927-11	ELECT 4.7MF	20% 50V	C500	1-130-489-00	FILM 0.033MF	5% 50V
C310	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V	C501	1-124-927-11	ELECT 4.7MF	20% 50V
C312	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C502	1-163-077-91	CERAMIC CHIP 0.1MF	50V
C313	1-163-011-11	CERAMIC CHIP 0.0015MF	10% 50V	C503	1-107-894-91	ELECT 220MF	20% 35V
C314	1-163-077-91	CERAMIC CHIP 0.1MF	50V	C504	1-124-122-11	ELECT 100MF	20% 50V
C315	1-163-038-91	CERAMIC CHIP 0.1MF	25V	C505	1-126-941-11	ELECT 470MF	20% 25V
C316	1-163-038-91	CERAMIC CHIP 0.1MF	25V	C506	1-163-009-91	CERAMIC CHIP 0.001MF	10% 50V
C317	1-163-038-91	CERAMIC CHIP 0.1MF	25V	C507	1-124-903-11	ELECT 1MF	20% 50V
C318	1-163-038-91	CERAMIC CHIP 0.1MF	25V	C508	1-106-228-00	MYLAR 0.22MF	10% 100V
C319	1-163-038-91	CERAMIC CHIP 0.1MF	25V	C509	1-163-035-00	CERAMIC CHIP 0.047MF	50V
C320	1-163-038-91	CERAMIC CHIP 0.1MF	25V	C600	ELECT 47MF	20% 50V	
C321	1-124-927-11	ELECT 4.7MF	20% 50V	C601	1-107-563-11	FILM 0.1MF	20% 100V
C323	1-163-163-91	CERAMIC CHIP 18PF	5% 50V	C602	1-107-563-11	FILM 0.1MF	20% 100V
C324	1-163-119-00	CERAMIC CHIP 120PF	5% 50V	C603	1-162-599-12	CERAMIC 0.0047MF	250V
C325	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C604	1-162-599-12	CERAMIC 0.0047MF	250V
C326	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C606	1-113-473-11	CAP, ELECT 180MF	
C328	1-163-035-00	CERAMIC CHIP 0.047MF	50V	C607	1-104-666-11	ELECT 220MF	20% 25V
C329	1-163-016-00	CERAMIC CHIP 0.0039MF	10% 50V	C608	1-126-964-11	ELECT 10MF	20% 50V
C330	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C609	1-109-921-11	CERAMIC 0.0015MF	10% 500V
C332	1-163-038-91	CERAMIC CHIP 0.1MF	25V	C610	1-104-665-11	ELECT 100MF	20% 25V
C333	1-163-033-91	CERAMIC CHIP 0.022MF	50V	C611	1-126-964-11	ELECT 10MF	20% 50V
C334	1-128-551-11	ELECT 22MF	20% 50V	C612	1-161-742-00	CERAMIC 0.0022MF	20% 400V
C335	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	C613	1-161-742-00	CERAMIC 0.0022MF	20% 400V
C336	1-162-638-11	CERAMIC CHIP 1MF	16V	C614	1-136-538-11	FILM 0.001MF	3% 2KV
C337	1-162-638-11	CERAMIC CHIP 1MF	16V	C618	1-162-116-00	CERAMIC 680PF	10% 2KV
C338	1-128-551-11	ELECT 22MF	20% 50V	C619	1-102-228-00	CERAMIC 470PF	10% 500V
C339	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	C620	1-124-347-00	ELECT 100MF	20% 160V
C340	1-163-038-91	CERAMIC CHIP 0.1MF	25V	C621	1-126-942-61	ELECT 1000MF	20% 25V
C341	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	C622	1-126-952-11	ELECT 1000MF	20% 16V
C344	1-104-658-91	ELECT 47MF	20% 50V	C625	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C345	1-163-139-00	CERAMIC CHIP 820PF	10% 50V	C626	1-104-658-91	ELECT 100MF	20% 16V
C347	1-163-021-91	CERAMIC CHIP 0.01MF	10% 50V	C627	1-104-658-91	ELECT 100MF	20% 16V
C348	1-163-031-91	CERAMIC CHIP 0.01MF	50V (KV-M1440B/M1441B)	C701	1-163-127-00	CERAMIC CHIP 270PF	5% 50V
C349	1-128-551-11	ELECT 22MF	20% 50V (KV-M1440B/M1441B)	C702	1-163-127-00	CERAMIC CHIP 270PF	5% 50V
C350	1-163-021-91	CERAMIC CHIP 0.01MF	10% 100V	C703	1-163-129-00	CERAMIC CHIP 330PF	5% 50V
C351	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C704	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C353	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C705	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C354	1-163-055-00	CERAMIC CHIP 0.0047MF	10% 50V	C706	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C355	1-163-071-91	CERAMIC CHIP 0.01MF	50V	C707	1-136-189-00	FILM 0.1MF	10% 250V
C358	1-163-021-91	CERAMIC CHIP 0.01MF	10% 100V	C709	1-162-114-00	CERAMIC 0.0047MF	2KV
				C710	1-124-477-11	ELECT 47MF	20% 16V
				C711	1-163-009-91	CERAMIC CHIP 0.001MF	10% 50V
				C712	1-163-009-91	CERAMIC CHIP 0.001MF	10% 50V
				C713	1-163-009-91	CERAMIC CHIP 0.001MF	10% 50V
				C800	1-126-772-11	ELECT 1MF	20% 250V

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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The components identified by shading and marked **A** are critical for safety.  
Replace only with the part number specified.

Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

**A and C**

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
< IC >				< TRANSISTOR >			
IC001	8-759-354-62	IC SAA5290ZP/005 (KV-M1441U)		Q001	8-729-922-67	TRANSISTOR 2SC2410	
	8-759-354-63	IC SAA5290ZP/006 (KV-M1441KR)		Q002	8-729-026-40	TRANSISTOR 2SA933AS-RT	
	8-759-354-64	IC SAA5290ZP/007		Q005	8-729-901-81	TRANSISTOR 2SC2412K-QR	
		(KV-M1441A/M1441B/M1441D/M1441E/M1441K)		Q006	8-729-026-40	TRANSISTOR 2SA933AS-RT	
	8-759-354-82	IC SAA5288ZP/007		Q007	8-729-900-95	TRANSISTOR 2SC2785-HFE	
		(KV-M1440A/M1440B/M1440D/M1440E/M1440K)		Q008	8-729-900-95	TRANSISTOR 2SC2785-HFE	
	8-759-354-83	IC SAA5288ZP/005 (KV-M1440L/M1440U)		Q009	8-729-900-95	TRANSISTOR 2SC2785-HFE	
IC002	8-759-280-74	IC ST24C02CB1		Q010	8-729-901-81	TRANSISTOR 2SC2412K-QR	
IC003	8-747-905-11	IC SBX1790-51		Q011	8-729-900-89	TRANSISTOR DTC144ES	
IC101	8-759-333-17	IC TDA9812 (KV-M1441B)		Q012	8-729-901-81	TRANSISTOR 2SC2412K-QR	
	8-759-333-19	IC TDA9806		Q013	8-729-901-81	TRANSISTOR 2SC2412K-QR	
		(KV-M1440A/M1441A/M1440B/M1440D/M1441D/ M1440E/M1441E/M1440K/M1441K/ M1441KR/M1440L/M1440U/M1441U)		Q014	8-729-901-81	TRANSISTOR 2SC2412K-QR	
				Q015	8-729-901-81	TRANSISTOR 2SC2412K-QR	
				Q016	8-729-902-21	TRANSISTOR 2SC1162-G	
IC301	8-759-333-44	IC MC44007P		Q100	8-729-901-01	TRANSISTOR DTC144EK	
		(KV-M1440A/M1441A/M1440E/M1441E/M1440L/ M1440U/M1441U)		Q101	8-729-900-80	TRANSISTOR DTC114ES (KV-M1440B/M1441B)	
	8-759-333-45	IC MC44002P		Q102	8-729-900-80	TRANSISTOR DTC114ES (KV-M1440B/M1441B)	
		(KV-M1440B/M1441B/M1440D/M1441D/M1440K/ M1441K/M1441KR)		Q103	8-729-900-80	TRANSISTOR DTC114ES (KV-M1440B/M1441B)	
				Q105	8-729-901-01	TRANSISTOR DTC144EK	
				Q107	8-729-900-95	TRANSISTOR 2SC2785-HFE	
IC302	8-759-333-46	IC MC44140P		Q109	8-729-022-54	TRANSISTOR 2SC3779C, D-AA	
IC401	8-759-041-82	IC TDA1013B				(KV-M1440B/M1441B)	
IC501	8-759-324-56	IC TDA9302H		Q110	8-729-901-01	TRANSISTOR DTC144EK	
IC601	8-749-011-02	IC STR-85706		Q111	8-729-900-89	TRANSISTOR DTC144ES	
IC603	8-759-337-99	IC TDA8139				(KV-M1440K/M1441K/M1441KR)	
< SOCKET >				Q112	8-729-900-95	TRANSISTOR 2SC2785-HFE	
J201	1-568-267-21	JACK		Q113	8-729-900-89	TRANSISTOR DTC144ES	
J401	1-695-551-11	SOCKET 21P				(KV-M1440K/M1441K/M1441KR)	
< CRT SOCKET >				Q114	8-729-901-01	TRANSISTOR DTC144EK	
J701	1-251-192-11	SOCKET, CRT		Q115	8-729-026-40	TRANSISTOR 2SA1175-HFE	
< COIL >						(KV-M1440B/M1441B)	
L101	1-410-669-31	INDUCTOR 33UH		Q116	8-729-900-89	TRANSISTOR DTC144ES (KV-M1440B/M1441B)	
L105	1-408-411-00	INDUCTOR 15UH		Q300	8-729-900-80	TRANSISTOR DTC114ES	
L108	1-408-405-00	INDUCTOR 4.7UH		Q301	8-729-900-95	TRANSISTOR 2SC2785-HFE	
		(KV-M1440K/M1441K/M1441KR)		Q302	8-729-900-80	TRANSISTOR DTC114ES	
	1-408-408-00	INDUCTOR 8.2UH		Q303	8-729-900-80	TRANSISTOR DTC114ES	
		(KV-M1440A/M1441A/M1440B/M1441B/M1440D/ M1441D/M1440E/M1441E/M1440L/M1440U/ M1441U)		Q304	8-729-900-80	TRANSISTOR DTC114ES	
L109	1-403-686-12	COIL		Q305	8-729-900-80	TRANSISTOR DTC114ES	
L110	1-410-673-31	INDUCTOR 68UH		Q306	8-729-900-80	TRANSISTOR DTC114ES	
L111	1-410-665-41	INDUCTOR 15UH (KV-M1440B/M1441B)		Q307	8-729-119-76	TRANSISTOR 2SA1175-HFE	
L112	1-408-417-00	INDUCTOR 47UH				(KV-M1440B/M1441B)	
L113	1-410-985-41	INDUCTOR CHIP 0.22UH		Q401	8-729-900-95	TRANSISTOR 2SC2785-HFE	
L201	1-408-609-41	INDUCTOR 33UH		Q402	8-729-902-21	TRANSISTOR 2SA1162-G	
L602	1-408-609-41	INDUCTOR 33UH		Q403	8-729-901-81	TRANSISTOR 2SC2412K-QR	
L603	1-410-669-31	INDUCTOR 33UH		Q404	8-729-901-81	TRANSISTOR 2SC2412K-QR	
L604	1-408-417-00	INDUCTOR 47UH		Q500	8-729-920-09	TRANSISTOR 2SD1763A	
L800	1-412-553-11	INDUCTOR 3.3MMH		Q501	8-729-900-95	TRANSISTOR 2SC2785-HFE	
L802	1-407-365-00	COIL, CHOKE		Q600	8-729-900-95	TRANSISTOR 2SC2785-HFE	
L805	1-412-531-31	INDUCTOR 33UH		Q602	8-729-900-65	TRANSISTOR DTA144ES	
L806	1-459-756-12	COIL, HORIZONTAL LINEARITY		Q801	8-729-140-96	TRANSISTOR 2SC2688-LK	
				Q802	8-729-031-72	TRANSISTOR S2055N-16E314A	
< IC LINK >				Q803	8-729-900-89	TRANSISTOR DTC144ES	
P8602	1-532-686-21	LINK, IC 2.7A (ICP-N75)		< RESISTOR >			
P8603	1-532-637-00	LINK, IC 1.0A (ICP-N25)		JR004	1-216-296-00	METAL GLAZE 0 5% 1/8W	
				JR007	1-216-295-91	METAL GLAZE 0 5% 1/10W	
				JR008	1-216-295-91	METAL GLAZE 0 5% 1/10W	
				JR009	1-216-295-91	METAL GLAZE 0 5% 1/10W	
				JR012	1-216-295-91	METAL GLAZE 0 5% 1/10W	

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
JR013	1-216-295-91	METAL GLAZE	0 5% 1/10W	R067	1-216-081-00	METAL GLAZE	22K 5% 1/10W
JR015	1-216-295-91	METAL GLAZE	0 5% 1/10W	R068	1-216-073-00	METAL GLAZE	10K 5% 1/10W
JR017	1-216-295-91	METAL GLAZE	0 5% 1/10W	R069	1-247-863-91	CARBON	22K 5% 1/4W
JR018	1-216-296-00	METAL GLAZE	0 5% 1/8W	R070	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
JR020	1-216-295-91	METAL GLAZE	0 5% 1/10W				
JR021	1-216-296-00	METAL GLAZE	0 5% 1/8W	R071	1-216-081-00	METAL GLAZE	22K 5% 1/10W
JR023	1-216-295-91	METAL GLAZE	0 5% 1/10W	R072	1-216-230-00	METAL GLAZE	22K 5% 1/8W
JR024	1-216-296-00	METAL GLAZE	0 5% 1/8W	R073	1-216-089-00	METAL GLAZE	47K 5% 1/10W
JR025	1-216-295-91	METAL GLAZE	0 5% 1/10W	R074	1-216-073-00	METAL GLAZE	10K 5% 1/10W
				R075	1-249-436-11	CARBON	39K 5% 1/4W
R001	1-216-222-91	METAL GLAZE	10K 5% 1/8W	R078	1-216-071-91	METAL GLAZE	8.2K 5% 1/10W
R002	1-216-057-91	METAL GLAZE	2.2K 5% 1/10W	R079	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R004	1-216-238-00	METAL GLAZE	47K 5% 1/8W	R080	1-216-057-91	METAL GLAZE	2.2K 5% 1/10W
R005	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R081	1-249-438-11	CARBON	56K 5% 1/4W
R006	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R088	1-216-059-91	METAL GLAZE	2.7K 5% 1/10W
R008	1-216-031-91	METAL GLAZE	180 5% 1/10W	R089	1-216-059-91	METAL GLAZE	2.7K 5% 1/10W
R009	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R090	1-216-059-91	METAL GLAZE	2.7K 5% 1/10W
R010	1-216-041-00	METAL GLAZE	470 5% 1/10W	R091	1-249-427-11	CARBON	6.8K 5% 1/4W
R011	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R093	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
R012	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R094	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R013	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R095	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R014	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R096	1-216-033-00	METAL GLAZE	220 5% 1/10W
R015	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R097	1-216-051-91	METAL GLAZE	1.2K 5% 1/10W
R016	1-216-025-91	METAL GLAZE	100 5% 1/10W	R098	1-216-051-91	METAL GLAZE	1.2K 5% 1/10W
R017	1-216-025-91	METAL GLAZE	100 5% 1/10W	R099	1-216-200-91	METAL GLAZE	1.2K 5% 1/8W
R018	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R102	1-216-234-91	METAL GLAZE	33K 5% 1/8W
R019	1-216-174-91	METAL GLAZE	100 5% 1/8W	R104	1-216-059-91	METAL GLAZE	2.7K 5% 1/10W
R020	1-216-083-00	METAL GLAZE	27K 5% 1/10W				(KV-M1440B/M1441B)
R021	1-216-174-91	METAL GLAZE	100 5% 1/8W	R105	1-216-025-91	METAL GLAZE	100 5% 1/10W
R022	1-216-295-91	METAL GLAZE	0 5% 1/10W				(KV-M1440B/M1441B)
R024	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R106	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W
R025	1-216-222-91	METAL GLAZE	10K 5% 1/8W				(KV-M1440B/M1441B)
R026	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R107	1-216-017-00	METAL GLAZE	47 5% 1/10W
R027	1-216-206-00	METAL GLAZE	2.2K 5% 1/8W				(KV-M1440B/M1441B)
R028	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R108	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R029	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R109	1-216-025-91	METAL GLAZE	100 5% 1/10W
R030	1-215-900-11	METAL OXIDE	22K 5% 2W F				(KV-M1440B/M1441B)
R031	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R110	1-216-101-00	METAL GLAZE	150K 5% 1/10W
R032	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R111	1-216-085-00	METAL GLAZE	33K 5% 1/10W
R033	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R112	1-216-057-91	METAL GLAZE	2.2K 5% 1/10W
							(KV-M1440B/M1441B)
R034	1-249-432-11	CARBON	18K 5% 1/4W	R113	1-216-057-91	METAL GLAZE	2.2K 5% 1/10W
R035	1-247-863-91	CARBON	22K 5% 1/4W				(KV-M1440B/M1441B)
R036	1-216-059-91	METAL GLAZE	2.7K 5% 1/10W	R114	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R037	1-216-057-91	METAL GLAZE	2.2K 5% 1/10W				(KV-M1440B/M1441B)
R039	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R115	1-216-057-91	METAL GLAZE	2.2K 5% 1/10W
							(KV-M1440B/M1441B)
R040	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R116	1-216-049-91	METAL GLAZE	1K 5% 1/10W
R042	1-216-230-00	METAL GLAZE	22K 5% 1/8W	R117	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R044	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R118	1-216-075-00	METAL GLAZE	12K 5% 1/10W
R045	1-216-081-00	METAL GLAZE	22K 5% 1/10W				
R046	1-216-105-91	METAL GLAZE	220K 5% 1/10W	R122	1-216-025-91	METAL GLAZE	100 5% 1/10W
							(KV-M1440K/M1441K/M1441KR)
R047	1-216-077-00	METAL GLAZE	15K 5% 1/10W		1-216-029-00	METAL GLAZE	150 5% 1/10W
R049	1-216-041-00	METAL GLAZE	470 5% 1/10W				(KV-M1440A/M1441A/M1440B/M1441B/M1440D/M1441D/M1440E/M1441E/M1441OL/M1440U/M1441U)
R052	1-216-238-91	METAL GLAZE	47K 5% 1/8W	R123	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R055	1-216-057-91	METAL GLAZE	2.2K 5% 1/10W	R124	1-216-025-91	METAL GLAZE	100 5% 1/10W
R060	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R125	1-216-025-91	METAL GLAZE	100 5% 1/10W
				R126	1-216-025-91	METAL GLAZE	100 5% 1/10W
R061	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R127	1-216-180-00	METAL GLAZE	180 5% 1/10W
R062	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R063	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W				
R064	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R065	1-216-073-00	METAL GLAZE	10K 5% 1/10W				
R066	1-216-073-00	METAL GLAZE	10K 5% 1/10W				

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R128	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R302	1-216-037-91	METAL GLAZE	330 5% 1/10W
R133	1-249-429-11	CARBON	10K 5% 1/4W	R303	1-216-090-00	METAL GLAZE	51K 5% 1/10W
R134	1-216-029-00	METAL GLAZE	150 5% 1/10W	R304	1-216-025-91	METAL GLAZE	100 5% 1/10W
		(KV-M1440L/M1440U/M1441U)		R305	1-216-025-91	METAL GLAZE	100 5% 1/10W
	1-216-031-91	METAL GLAZE	180 5% 1/10W	R307	1-216-121-00	METAL GLAZE	1M 5% 1/10W
		(KV-M1440A/M1441A/M1440B/M1441B/M1440D/ M1441D/M1440E/M1441E/M1440K/M1441K/ M1441KR)		R308	1-216-234-91	METAL GLAZE	33K 5% 1/8W
R136	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R309	1-216-121-00	METAL GLAZE	1M 5% 1/10W
R137	1-216-109-00	METAL GLAZE	330K 5% 1/10W	R310	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R138	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R311	1-216-093-00	METAL GLAZE	68K 5% 1/10W
R141	1-216-057-91	METAL GLAZE	2.2K 5% 1/10W	R312	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R142	1-216-057-91	METAL GLAZE	2.2K 5% 1/10W	R313	1-216-045-00	METAL GLAZE	680 5% 1/10W
R143	1-216-295-91	METAL GLAZE	0 5% 1/10W	R314	1-216-045-00	METAL GLAZE	680 5% 1/10W
		(KV-M1440A/M1441A/M1440B/M1441B/M1440D/ M1441D/M1440E/M1441E/M1440L/M1440U/ M1441U)		R315	1-216-045-00	METAL GLAZE	680 5% 1/10W
R144	1-216-057-91	METAL GLAZE	2.2K 5% 1/10W	R316	1-216-033-00	METAL GLAZE	220 5% 1/10W
		(KV-M1440K/M1441K/M1441KR)		R317	1-216-182-00	METAL GLAZE	220 5% 1/8W
R145	1-216-057-91	METAL GLAZE	2.2K 5% 1/10W	R318	1-216-019-91	METAL GLAZE	56 5% 1/10W
		(KV-M1440K/M1441K/M1441KR)		R322	1-216-022-91	METAL GLAZE	75 5% 1/10W
R146	1-216-043-91	METAL GLAZE	560 5% 1/10W	R323	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R147	1-216-043-91	METAL GLAZE	560 5% 1/10W	R325	1-216-089-00	METAL GLAZE	47K 5% 1/10W
		(KV-M1441K/M1441KR)		R333	1-216-037-91	METAL GLAZE	330 5% 1/10W
R149	1-216-057-91	METAL GLAZE	2.2K 5% 1/10W	R334	1-216-033-00	METAL GLAZE	220 5% 1/10W
		(KV-M1440K/M1441K/M1441KR)		R335	1-216-295-91	METAL GLAZE	0 5% 1/10W
R151	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R336	1-216-296-00	METAL GLAZE	0 5% 1/8W
R153	1-216-097-00	METAL GLAZE	100K 5% 1/10W	R337	1-216-295-91	METAL GLAZE	0 5% 1/10W
R154	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R339	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R155	1-216-081-00	METAL GLAZE	22K 5% 1/10W	R340	1-216-115-00	METAL GLAZE	560K 5% 1/10W
R157	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R341	1-216-075-00	METAL GLAZE	12K 5% 1/10W
		(KV-M1440B/M1441B)		R342	1-216-186-91	METAL GLAZE	330 5% 1/8W
R158	1-216-031-91	METAL GLAZE	180 5% 1/10W	R343	1-216-295-91	METAL GLAZE	0 5% 1/10W
		(KV-M1440B/M1441B)		R344	1-216-295-91	METAL GLAZE	0 5% 1/10W
R159	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W	R345	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R160	1-216-238-91	METAL GLAZE	47K 5% 1/8W	R347	1-216-041-00	METAL GLAZE	470 5% 1/10W
R161	1-216-295-91	METAL GLAZE	0 5% 1/10W			(KV-M1440B/M1441B)	
		(KV-M1440A/M1441A/M1440D/M1441D/M1440E/ M1441E/M1440K/M1441K/M1441KR/ M1440L/M1440U/M1441U)		R348	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R162	1-216-017-00	METAL GLAZE	47 5% 1/10W			(KV-M1440B/M1441B)	
		(KV-M1440B/M1441B)		R349	1-216-105-00	METAL GLAZE	220K 5% 1/10W
R163	1-247-811-31	CARBON	150 5% 1/4W			(KV-M1440B/M1441B)	
R167	1-216-246-91	METAL GLAZE	100K 5% 1/8W	R350	1-216-033-00	METAL GLAZE	220 5% 1/10W
R168	1-247-811-31	CARBON	150 5% 1/4W			(KV-M1440B/M1441B)	
R169	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R351	1-216-292-11	METAL GLAZE	8.2M 5% 1/8W
		(KV-M1440B/M1441B)		R352	1-216-262-91	METAL GLAZE	470K 5% 1/8W
R170	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W	R353	1-247-804-11	CARBON	75 5% 1/4W
		(KV-M1440B/M1441B)		R354	1-216-025-91	METAL GLAZE	100 5% 1/10W
R171	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W	R355	1-216-121-91	METAL GLAZE	1M 5% 1/10W
		(KV-M1440B/M1441B)		R356	1-216-121-91	METAL GLAZE	1M 5% 1/10W
R175	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R357	1-216-091-00	METAL GLAZE	56K 5% 1/10W
R176	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R358	1-216-009-91	METAL GLAZE	22 5% 1/10W
R177	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R361	1-216-022-91	METAL GLAZE	75 5% 1/10W
R178	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W	R362	1-216-022-91	METAL GLAZE	75 5% 1/10W
R179	1-216-212-91	METAL GLAZE	3.9K 5% 1/8W	R363	1-216-022-91	METAL GLAZE	75 5% 1/10W
R180	1-216-049-91	METAL GLAZE	1K 5% 1/10W	R401	1-216-041-00	METAL GLAZE	470 5% 1/10W
		(KV-M1440B/M1441B)		R402	1-249-431-11	CARBON	15K 5% 1/4W
R205	1-247-741-11	CARBON	150 5% 1/2W	R403	1-249-431-11	CARBON	15K 5% 1/4W
R301	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R405	1-249-389-11	CARBON	4.7 5% 1/4W F
				R406	1-216-091-00	METAL GLAZE	56K 5% 1/10W
				R407	1-216-041-00	METAL GLAZE	470 5% 1/10W
				R408	1-216-033-00	METAL GLAZE	220 5% 1/10W

## A and C

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R410	1-246-445-75	METAL GLAZE 68 5% 1/4W (KV-M1440L/M1440U/M1441U)		R717	1-247-758-11	CARBON 3.3K 5% 1/2W	
	1-246-446-75	METAL GLAZE 75 5% 1/4W (KV-M1440A/M1441A/M1440B/M1441B/M1440D/ M1441D/M1440E/M1441E/M1440K/M1441K/ M1441KR)		R718	1-247-758-11	CARBON 3.3K 5% 1/2W	
R411	1-216-085-00	METAL GLAZE 33K 5% 1/10W		R719	1-247-758-11	CARBON 3.3K 5% 1/2W	
R412	1-216-105-91	METAL GLAZE 220K 5% 1/10W		R720	1-216-463-00	METAL OXIDE 12K 5% 2W F	
R413	1-216-097-00	METAL GLAZE 100K 5% 1/10W		R721	1-216-463-00	METAL OXIDE 12K 5% 2W F	
R414	1-216-097-00	METAL GLAZE 100K 5% 1/10W		R722	1-216-463-00	METAL OXIDE 12K 5% 2W F	
R415	1-216-222-91	METAL GLAZE 10K 5% 1/8W		R726	1-202-719-00	SOLID 1M 10% 1/2W	
R416	1-216-081-00	METAL GLAZE 22K 5% 1/10W		R727	1-202-838-00	SOLID 100K 10% 1/2W	
R501	1-208-806-11	METAL CHIP 10K 0.50% 1/10W		R729	1-216-348-00	METAL OXIDE 0.82 5% 1W F	
R502	1-216-677-11	METAL CHIP 12K 0.50% 1/10W		R731	1-202-719-00	SOLID 1M 10% 1/2W	
R503	1-216-081-00	METAL GLAZE 22K 5% 1/10W		R734	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R504	1-216-095-00	METAL GLAZE 82K 5% 1/10W		R735	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R505	1-216-075-00	METAL GLAZE 12K 5% 1/10W		R736	1-247-815-91	CARBON 220 5% 1/4W	
R506	1-216-079-00	METAL GLAZE 18K 5% 1/10W		R800	1-215-864-00	METAL OXIDE 150 5% 1W F	
R507	1-216-350-11	METAL OXIDE 1.2 5% 1W F		R801	1-247-891-00	CARBON 330K 5% 1/4W	
R508	1-215-865-11	METAL OXIDE 220 5% 1W F		R802	1-247-807-31	CARBON 100 5% 1/4W	
R509	1-249-383-11	CARBON 1.5 5% 1/4W F		R803	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R512	1-215-888-00	METAL OXIDE 220 5% 2W F		R804	1-217-778-11	FUSIBLE 1K 5% 1W F	
R513	1-249-425-11	CARBON 4.7K 5% 1/4W		R806	1-216-353-00	METAL OXIDE 2.2 5% 1W F	
R514	1-216-089-00	METAL GLAZE 47K 5% 1/10W		R807	1-216-013-00	METAL GLAZE 33 5% 1/10W	
R515	1-215-912-11	METAL OXIDE 150 5% 3W F		R808	1-202-833-11	SOLID 18K 10% 1/2W	
R600	1-216-365-00	METAL OXIDE 0.47 5% 2W F		R810	1-247-895-00	CARBON 470K 5% 1/4W	
R601	1-205-909-11	WIREWOUND 3.3 5% 10W		R812	1-215-869-11	METAL OXIDE 1K 5% 1W F	
R603	1-215-860-11	METAL OXIDE 33 5% 1W F		R814	1-217-811-11	FUSIBLE 0.47 5% 1/4W	
R604	1-215-927-00	METAL OXIDE 47K 5% 3W F		R816	1-216-369-00	METAL OXIDE 1 5% 2W F	
R606	1-249-441-11	CARBON 100K 5% 1/4W		R817	1-216-447-00	METAL OXIDE 27 5% 2W F	
R607	1-216-366-51	METAL OXIDE 0.56 5% 2W F		R818	1-202-813-00	SOLID 22K 10% 1/2W	
R608	1-216-645-91	METAL CHIP 560 0.50% 1/10W		R819	1-249-441-11	CARBON 100K 5% 1/4W	
R609	1-215-861-00	METAL OXIDE 47 5% 1W F		R820	1-217-820-11	FUSIBLE 3.3K 5% 1/4W	
R610	1-249-419-11	CARBON 1.5K 5% 1/4W		< VARIABLE RESISTOR >			
R611	1-215-430-00	METAL 2.4K 1% 1/4W		RV102	1-241-765-11	RES, ADJ, METAL GLAZE 22K (KV-M1440B/M1441B)	
R612	1-202-719-00	SOLID 1M 10% 1/2W		RV703	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
R614	1-218-265-11	METAL 0.2M 5% 1W		RV704	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
R615	1-217-371-00	FUSIBLE 0.47 10% 1/4W F		< SWITCH >			
R617	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W		S001	1-571-532-21	SWITCH, TACTIL	
R618	1-216-659-11	METAL CHIP 2.2K 0.50% 1/10W		S002	1-571-532-21	SWITCH, TACTIL	
R620	1-215-479-00	METAL 270K 1% 1/4W		S003	1-571-532-21	SWITCH, TACTIL	
R621	1-249-429-11	CARBON 10K 5% 1/4W		S004	1-571-532-21	SWITCH, TACTIL	
R622	1-247-895-91	METAL GLAZE 470K 5% 1/4W		S005	1-571-532-21	SWITCH, TACTIL	
R623	1-216-081-00	METAL GLAZE 22K 5% 1/10W		S006	1-571-532-21	SWITCH, TACTIL	
R624	1-216-033-00	METAL GLAZE 220 5% 1/10W		S601	1-571-433-21	SWITCH, PUSH (AC POWER)	
R625	1-216-073-00	METAL GLAZE 10K 5% 1/10W		< TRANSFORMER >			
R626	1-216-089-00	METAL GLAZE 47K 5% 1/10W		T601	1-427-962-11	TRANSFORMER, LINE FILTER	
R627	1-216-346-00	METAL OXIDE 0.56 5% 1W F		T602	1-427-994-11	TRANSFORMER, CONVERTER	
R630	1-249-401-11	CARBON 47 5% 1/4W		T801	1-437-090-00	HDT	
R701	1-216-198-91	METAL GLAZE 1K 5% 1/8W		T802	1-453-186-11	TRANSFORMER ASSY, FLYBACK (NX-1730/U2A) (KV-M1440A/M1441A/M1440B/M1441B/M1440D/ M1441D/M1440E/M1441E/M1440K/M1441K/ M1441KR)	
R702	1-249-417-11	CARBON 1K 5% 1/4W			1-453-186-11	TRANSFORMER ASSY, FLYBACK (NX-1731/U2A) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)	
R705	1-216-166-00	METAL GLAZE 47 5% 1/8W		< THERMISTOR >			
R706	1-216-017-00	METAL GLAZE 47 5% 1/10W		THP601	1-806-165-12	THERMISTOR (POSITIVE)	
R707	1-216-166-00	METAL GLAZE 47 5% 1/8W					
R708	1-216-033-00	METAL GLAZE 220 5% 1/10W					
R709	1-216-033-00	METAL GLAZE 220 5% 1/10W					
R710	1-216-033-00	METAL GLAZE 220 5% 1/10W					
R711	1-216-049-91	METAL GLAZE 1K 5% 1/10W					
R714	1-216-198-91	METAL GLAZE 1K 5% 1/8W					
R715	1-249-417-11	CARBON 1K 5% 1/4W					
R716	1-216-049-91	METAL GLAZE 1K 5% 1/10W					



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**A and C****C**

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
< TUNER >				< RESISTOR >			
TU101	1-693-302-11	TUNER (UV1315) (KV-M1440K/M1441K/M1440L)		R701	1-216-198-91	METAL GLAZE 1K 5% 1/8W	
	1-693-303-11	TUNER (TELE1X001A)		R702	1-249-417-11	CARBON 1K 5% 1/4W	
		(KV-M1440A/M1441A/M1441KR)		R705	1-216-166-00	METAL GLAZE 47 5% 1/8W	
	8-598-331-00	TUNER (BT-AC401)		R706	1-216-017-00	METAL GLAZE 47 5% 1/10W	
		(KV-M1440B/M1441B/M1440D/M1441D/M1440E/M1441E)		R707	1-216-166-00	METAL GLAZE 47 5% 1/8W	
	8-598-333-00	TUNER (BT-AU601) (KV-M1440U/M1441U)		R708	1-216-033-00	METAL GLAZE 220 5% 1/10W	
< CRYSTAL >				R709	1-216-033-00	METAL GLAZE 220 5% 1/10W	
X001	1-578-774-11	VIBRATOR, CRYSTAL		R710	1-216-033-00	METAL GLAZE 220 5% 1/10W	
X302	1-760-710-21	VIBRATOR, CRYSTAL		R711	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
*****				R714	1-216-198-91	METAL GLAZE 1K 5% 1/8W	
	*A-1638-063-A	C BOARD, COMPLETE (KV-M1440K/M1441K/M1441KR/M1440L/M1440U/M1441U)		R715	1-249-417-11	CARBON 1K 5% 1/4W	
		*****		R716	1-216-049-91	METAL GLAZE 1K 5% 1/10W	
	*A-1638-064-A	C BOARD, COMPLETE (KV-M1440A/M1441A/M1440B/M1441B/M1440D/M1441D/M1440E/M1441E)		R717	1-247-758-11	CARBON 3.3K 5% 1/2W	
		*****		R718	1-247-758-11	CARBON 3.3K 5% 1/2W	
				R719	1-247-758-11	CARBON 3.3K 5% 1/2W	
< CAPACITOR >				R720	1-216-463-00	METAL OXIDE 12K 5% 2W F	
C701	1-163-127-00	CERAMIC CHIP 270PF 5% 50V		R721	1-216-463-00	METAL OXIDE 12K 5% 2W F	
C702	1-163-127-00	CERAMIC CHIP 270PF 5% 50V		R722	1-216-463-00	METAL OXIDE 12K 5% 2W F	
C703	1-163-129-00	CERAMIC CHIP 330PF 5% 50V		R726	1-202-719-00	SOLID 1M 10% 1/2W	
C704	1-163-133-00	CERAMIC CHIP 470PF 5% 50V		R727	1-202-838-00	SOLID 100K 10% 1/2W	
C705	1-163-133-00	CERAMIC CHIP 470PF 5% 50V		R729	1-216-348-00	METAL OXIDE 0.82 5% 1W F	
C706	1-163-133-00	CERAMIC CHIP 470PF 5% 50V		R731	1-202-719-00	SOLID 1M 10% 1/2W	
C707	1-136-189-00	FILM 0.1MF 10% 250V		R734	1-216-033-00	METAL GLAZE 220 5% 1/10W	
C709	1-162-114-00	CERAMIC 0.0047MF 2KV		R735	1-216-033-00	METAL GLAZE 220 5% 1/10W	
C710	1-124-477-11	ELECT 47MF 20% 16V		R736	1-247-815-91	CARBON 220 5% 1/4W	
C711	1-163-009-91	CERAMIC CHIP 0.001MF 10% 50V		< VARIABLE RESISTOR >			
C712	1-163-009-91	CERAMIC CHIP 0.001MF 10% 50V		RV703	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
C713	1-163-009-91	CERAMIC CHIP 0.001MF 10% 50V		RV704	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
< DIODE >				*****			
D701	8-719-901-33	DIODE 1SS133					
D702	8-719-901-33	DIODE 1SS133					
D703	8-719-901-33	DIODE 1SS133					
D704	8-719-901-33	DIODE 1SS133					
D705	8-719-901-33	DIODE 1SS133					
D706	8-719-901-33	DIODE 1SS133					
D707	8-719-901-33	DIODE 1SS133					
D708	8-719-901-33	DIODE 1SS133					
D709	8-719-901-33	DIODE 1SS133					
< CRT SOCKET >							
J701	* 1-251-192-11	SOCKET, CRT					
< TRANSISTOR >							
Q701	8-729-900-95	TRANSISTOR 2SC2785-HFE					
Q702	8-729-900-95	TRANSISTOR 2SC2785-HFE					
Q703	8-729-900-95	TRANSISTOR 2SC2785-HFE					
Q704	8-729-906-70	TRANSISTOR BF871-127					
Q705	8-729-906-70	TRANSISTOR BF871-127					
Q706	8-729-906-70	TRANSISTOR BF871-127					
Q707	8-729-200-17	TRANSISTOR 2SA1091-0					
Q708	8-729-200-17	TRANSISTOR 2SA1091-0					
Q709	8-729-200-17	TRANSISTOR 2SA1091-0					

## KV-M144

The components identified by shading and marked **A** are critical for safety.  
Replace only with the part number specified.

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
MISCELLANEOUS *****				ACCESSORIES AND PACKING MATERIALS *****			
	<b>A</b> 1-426-145-21	COIL, DEGAUSSING		4-203-018-61		MANUAL, INSTRUCTION (ENGLISH)	
	<b>A</b> 1-451-249-31	DEFLECTION YOKE (Y14NDA2) (KV-M1440A/M1441A/M1440B/M1441B/M1440D/ M1441D/M1440E/M1441E)		4-203-018-91		MANUAL, INSTRUCTION (ENGLISH/RUSSIAN/CZECH/HUNGARIAN/ POLISH/BULGARIAN)	
	<b>A</b> 8-451-249-84	DEFLECTION YOKE (Y14NDA2) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)		4-203-044-11		MANUAL, INSTRUCTION (ENGLISH/DANISH/SWEDISH/FINNISH/GREEK)	
	1-452-032-00	MAGNET, DISK; 10MM Ø		4-203-044-41		MANUAL, INSTRUCTION (ITALIAN)	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø		4-203-044-51		MANUAL, INSTRUCTION (FRENCH/GERMAN/ITALIAN)	
	1-452-277-13	MAGNET, BMC		4-203-044-71		MANUAL, INSTRUCTION (SPANISH/PORTUGUESE)	
	<b>A</b> 1-453-186-11	TRANSFORMER ASSY, FLYBACK (NX-1730/U2A) (KV-M1440A/M1441A/M1440B/M1441B/M1440D/ M1441D/M1440E/M1441E)		4-203-048-11		MANUAL, INSTRUCTION (ENGLISH/DANISH/SWEDISH/FINNISH/GREEK)	
	<b>A</b> 1-453-186-11	TRANSFORMER ASSY, FLYBACK (NX-1731/U2A) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)		*4-203-023-01		INDIVIDUAL CARTON (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)	
	1-504-899-11	SPEAKER (9x5CM)		*4-203-023-11		INDIVIDUAL CARTON (KV-M1440A/M1441A/M1440B/M1441B/M1440D/ M1441D/M1440E/M1441E)	
	<b>A</b> 1-540-007-11	CAP ASSY, HIGH-VOLTAGE					
	<b>A</b> 1-571-433-11	SWITCH, PUSH (AC POWER)		*4-203-024-01		CUSHION (UPPER) (ASSY) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)	
	<b>A</b> 1-590-460-11	CORD, POWER (WITH CONNECTOR) 7.0A/250V (KV-M1440K/M1441K/M1441KR)		*4-203-024-11		CUSHION (UPPER) (ASSY) (KV-M1440A/M1441A/M1440B/M1441B/M1440D/ M1441D/M1440E/M1441E)	
	<b>A</b> 1-590-762-11	CORD, POWER (WITH PLUG) 2.5A/250V (KV-M1440L/M1440U/M1441U)		*4-203-025-01		CUSHION (BOTTOM) (ASSY) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)	
	<b>A</b> 1-690-270-11	CORD, POWER (WITH CONNECTOR) 2.5A/250V (KV-M1440A/M1441A/M1440B/ M1441B/M1440D/M1441D/ M1440E/M1441E)		*4-203-025-11		CUSHION (BOTTOM) (ASSY) (KV-M1440A/M1441A/M1440B/M1441B/M1440D/ M1441D/M1440E/M1441E)	
	1-693-302-11	TUNER (UV1315) (KV-M1440K/M1441K/M1440L)		*4-393-126-01		BAG, PROTECTION	
	1-693-303-11	TUNER (TELE1X001A) (KV-M1440A/M1441A/M1441KR)					
	8-598-331-00	TUNER (BT-AC401) (KV-M1440B/M1441B/M1440D/M1441D/M1440E/ M1441E)					
	8-598-333-00	TUNER (BT-AU601) (KV-M1440U/M1441U)					
V901	<b>A</b> 8-735-561-05	PICTURE TUBE (SD-125) (A34JBU10X) (KV-M1440A/M1441A/M1440B/M1441B/M1440D/ M1441D/M1440E/M1441E)					
V901	<b>A</b> 8-735-562-05	PICTURE TUBE (SD-125) (A34JBU70X) (KV-M1440K/M1441K/M1441KR/M1440L/ M1440U/M1441U)					

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REMOTE COMMANDER  
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1-473-194-11 COMMANDER, STANDARD TYPE (RM-836)

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